

# **Abbreviated Preliminary Assessment**

## **Tuluksak River**



June 2020

Prepared by:

Alaska Department of Environmental Conservation  
Contaminated Sites Program  
Site Discovery Program

## ABBREVIATED PRELIMINARY ASSESSMENT

### Tuluksak River

This Abbreviated Preliminary Assessment (APA) for the Tuluksak River located in Tuluksak, Alaska was conducted by the Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Program (CSP) under the Environmental Protection Agency (EPA) Cooperative Agreement V-00J85603-0. The purpose of this APA is augment information previously collected by the EPA for the Tuluksak River site, Superfund Enterprise Management System (SEMS) ID: AKN001002722.

APAs are intended to identify potential hazards at a site, identify sites that require immediate action, and to establish priorities for sites requiring in-depth investigations. This APA is based on readily available information about the site, a field visit, and limited environmental sampling and is not intended to be a full investigation or characterization of the site. This document is intended to meet the requirements of an APA under the Comprehensive, Environmental, Response, Compensation, and Liability Act (CERCLA) and also be in accordance with the Site Cleanup Rules of 18 Alaska Administrative Code (AAC) 75.325-.390.

**Preparers:** Erin Gleason Date: 6/18/20  
Alaska Department of Environmental Conservation  
Contaminated Sites Program  
555 Cordova Street.  
Anchorage, Alaska 99501  
(907) 269-7556  
[Erin.Gleason@alaska.gov](mailto:Erin.Gleason@alaska.gov)

Anne Marie Palmieri Date: 6/18/20  
Alaska Department of Environmental Conservation  
Contaminated Sites Program  
PO Box 1542  
Haines, Alaska 99827  
(907) 766-3184  
[AnneMarie.Palmieri@alaska.gov](mailto:AnneMarie.Palmieri@alaska.gov)

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**SEMS ID:** AKN001002722  
**Site Name:** Tuluksak River  
**Previous Names (aka):** N/A  
**Site Owners:** Calista Corporation  
301 Calista Court, Suite A  
Anchorage, AK 99518-3028

**Site Location:** **Latitude:** 61.10135    **Longitude:** -160.959536  
**Datum:** WGS84

### Description of the release (or potential release) and its probable nature

The local residents of Tuluksak have expressed concerns that the river has been potentially contaminated by placer mining operations upriver from the community of Tuluksak. Historically, the most severe impacts from placer mining has been physical disturbance to stream channels and the addition of large quantities of sediment downstream. The sediments have contained increased concentrations heavy metals as a result of mining activities (E&E 2008). The potential source is dredge spoils. No chemical processing is known to have occurred at the mining operations. The contaminants of concern (COC) are target analyte list (TAL) metals. Local residents are concerned that lead is present in the river water, which they use as their primary drinking water source.

### Site Description and History

The Tuluksak River lies within the Yukon Delta Wildlife Refuge. The Calista Native Corporation owns the land adjacent to the Tuluksak River where the majority of the mining is currently occurring or has been conducted. The area targeted for evaluation is the Tuluksak River, the Fog River, Bear Creek, Granite Creek, and California Creek all which flow into the Tuluksak River (see Photograph 1). The Fog River is a tributary of the Tuluksak River with a confluence located within 10 miles upriver from the community of Tuluksak (see Figure 1).

The upper portion of the Tuluksak River lies in the Kilbuck Mountains, and the lower portions lies in the plain of the Tuluksak and Kuskokwim Rivers. The Tuluksak River is a slow moving meandering stream over most of its length, cutting through several tundra areas in its lower sections (Collazzi and Maurer 1987). The community of Tuluksak, located at the confluence of the Kuskokwim and Tuluksak rivers and it is approximately 35 miles northeast of Bethel and approximately 350 miles west of Anchorage.

The village name Tuluksak was first published in 1861 as Tul'yagmyut, meaning “related to loon”. A city government was present from 1970 to 1997, and is currently still dissolved. Its climate is considered “Western transitional climate zone” with tundra with boreal forests, long cold winters, and shorter warm summers. The Federally Recognized Tribe is the Tuluksak Native Community (TNC), while the Village Corporation is Tulkisarmute Incorporated.

Placer mining has been conducted in the upper reaches of the Tuluksak River for over 100 years. Gold was first discovered in the NYAC district on Bear Creek, near the mouth of Bonanza Creek in 1907 or 1908 (mindat.org 2009). Placer mining was performed by simple open-cut, pick and shovel with sluice boxes during the early years. Dredging began on the Tuluksak River in 1936 and continues to present day. The region is called the NYAC mining district because it was originally mined by the New York-Alaska Gold Dredging Company (NYAC). The company built a town adjacent to the mine named Nyac. The town of Nyac had an extensive physical plant and community facilities including hydroelectric power station. The Nyac Mining Company has operated it since 1990, through an agreement with Calista. Gold was the primary mineral being mined; however, silver has also historically been mined.

As of 2006, the Tuluksak River is marked by dredge spoils a thousand feet or more wide that extend almost continuously from the mouth of California Creek to about five miles below the town of Nyac.

## Previous Investigations

Previous investigations of the Tuluksak River site include a 2008 Preliminary Assessment (PA) completed by Ecology and Environment (E&E) for the United States Environmental Protection Agency (EPA) and a 2009 Site Inspection (SI) report by E&E for the EPA. The PA was performed to determine the potential for mining contamination to reach the Tuluksak River. No site visit was conducted as part of the PA. The PA concluded the waste material from placer mining may be migrating from sources and impacting downstream targets.

In 2008-2009, the EPA contracted E&E to perform a Site Inspection (SI) of the Tuluksak River. Sediment and soil samples were collected from three sources areas along the Tuluksak River, Bear Creek, and Granite Creek. (Both Granite Creek and Bear Creek are drain into the Tuluksak River and are upstream of the town of Tuluksak). The soil sample results showed concentrations of arsenic greater than the DEC migration to groundwater-based exposure pathway cleanup levels, but lower than the human health-based exposure pathway cleanup levels. The sediment sample results showed concentrations of arsenic, cadmium, copper, manganese, and nickel greater than the National Oceanic and Atmospheric Administration's (NOAA) Sediment Quick Reference Table (SQuaRT) values. Arsenic, cadmium, chromium, cobalt, copper, and nickel were detected at least three times the background concentration in Granite Creek and Bear Creek. Cobalt and nickel were detected at least three times the background concentration in the upper portion of the Tuluksak River. The target distance limit for the surface water migration pathway did not extend to the town of Tuluksak. Fisheries and wetlands were present in the zone of contamination.

## August Site Visit

ADEC staff traveled to Tuluksak to conduct work on four contaminated sites as a collaboration of three programs from August 19-22, 2019. ADEC staff collected the Tuluksak River water samples as part of the Site Discovery Program and collected soil and water samples from two former brownfields locations utilizing funding from the EPA State and Tribal Response Program. Soil samples were collected from riverside drums using ADEC funding. Sample results from the brownfields site and riverside drums are included in a separate report. As part of the brownfield work, ADEC staff trained the Tuluksak IGAP staff on how to use field screening instruments and collected analytical samples (see Photograph 2). The field work for the Tuluksak River evaluation area was conducted on August 21, 2020. All field and sampling activities were conducted according to the ADEC's Division of Spill Prevention and Response *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites*, dated October 2019.

## Field Work

ADEC staff and Tuluksak IGAP staff traveled upriver via boat from Tuluksak to the United States Fish and Wildlife Service (USFWS) fish weir (sample TR-12-W) and back. During the boat trip, ADEC and IGAP staff inspected the river and riverbanks for potential sources of contamination. Several empty 55 gallon metal drums were observed along the river (see Photographs 3-4). The total number of drums was not documented, but is estimated to be between 20 and 40 drums. The drums were located on the river banks and further back in the taiga. IGAP staff conjecture that the drums are from historic mining operations. During inspection of the river bank, ADEC found a wooden gold dredge (see Photograph 5) indicating that mining very likely took place along the bank. All of the drums were rusted and many had holes. Residents of Tuluksak are concerned that the drums are

a source of petroleum contamination to the river and surrounding subsistence hunting area. No sheen was observed on the river. The 55 gallon drums appeared to be empty. No signs of historic mining operations were observed in the section of the river traversed. Mining operations sampled in 2009 SI were farther upriver than reachable via boat.

All sample locations are described in the field notebook and located on a site sketch. Global position system (GPS) readings were collected of the sample locations (see Table 1). The date and time that each sample was collected.

Five surface water samples were collected along with one background sample (see Figure 2). The sample locations were selected to try and assess the drinking water exposure pathway. Two sample locations were from community water collection points; specifically, the barge landing (TR-13-W) and the Tuluksak Old BIA School (TR-16-W). The upriver samples were collected from the Fog River (TR-10-W), and the Tuluksak River (TR-11-W) just before their confluence. These sample locations were selected to allow for discrimination between potential contaminations coming from the Fog River versus the Tuluksak River. The final sample location was at the USFWS Fish Weir (TR-12-W) and was the closest sample to the Nyac Mine that could be collected via river boat. A background samples was collected from Bogus Creek, just upstream of the confluence of Bogus Creek and the Tuluksak River. The background sample location was selected because Bogus Creek does not have any potential mining impacts.

### **Sampling Methodology**

A fresh pair of nitrile gloves was worn and changed before each analytical sample was taken. All samples were collected from the boat so as not to disturb river bottom sediments. Subsurface grab samples were hand-collected directly from the Tuluksak River. The samples were collected near the bank of the river and in an areas of flow. Total metal samples were collected in clean polyethylene bottles without preservative. Dissolved metal samples were collected in a clean polyethylene bottle with nitric acid preservative (see photograph 2). No samples were filtered in the field.

The dissolved metals sample bottle was opened and closed under the water so it had no contact with the surface. The dissolved metals bottle was used to collect and fill both sample bottles. Water samples were not filtered in the field. All samples were labeled: TR- (sample number)-W. Labels were placed directly on sample bottles. One duplicate sample was collected at the barge landing location. This location was selected because it is where local residents collect drinking water. A temperature blank and field blank was included in each sample cooler. All samples were maintained between 0 and 6° C by storing them in a sample cooler with gel ice. The samples were wrapped in bubble wrap inside coolers. A background sample was collected from Bogus Creek (TR-15-W) and analyzed for total and dissolved metals.

The samples remained in the custody of the sample team until they were transferred to another person, under proper chain of custody protocol. The samples were transported to Eurofins/TestAmerica, an ADEC approved lab, via Ravn Aircargo and Alaska Airlines Goldstreak. Ravn Alaska did not follow chain of custody procedures as directed and their custody is not recorded on the chain of custody form. However, seals on the sample coolers remained intact until received by the Test America. ADEC does not anticipate samples were impacted by failure of chain of custody procedures.

Every effort was made to minimize the generation of investigative-derived waste. Disposable sampling gear was contained in a dedicated gallon polyethylene bag and disposed of at the local class 3 landfill.

### **Sample Analysis/Site Evaluation**

All water samples were analyzed for total target analyte metals (TAL) by EPA method 6020A, dissolved TAL metals by EPA method 6020A, hardness by SM 2340C, dissolved mercury by EPA method 7470A, and total mercury by EPA method 7470A. Total metals and hardness samples were preserved with nitric acid. Samples were analyzed for the eight Resource Conservation Recovery Act (RCRA) metals. All analyses were completed at Eurofins/TestAmerica Laboratory in Tacoma, Washington. The data met data quality objectives of the Site Discovery Program Quality Assurance Project Plan (QAPP), dated April 2015. A CSP Data Review Checklist is included in Appendix C and the original laboratory data package can be found in Appendix E.

For the purposes of this investigation, all analytical sample results are compared to drinking water criteria in the *Alaska Water Quality Criteria for Toxic and Other Deleterious Organic and Inorganic substances*, dated December 8, 2008, and three times the background concentration measured at Bogus Creek. Dissolved metal sample results are compared to the most stringent hardness dependent criteria calculated from Appendix A of the *Alaska Water Quality Criteria for Toxic and Other Deleterious Organic and Inorganic substances*, dated December 8, 2008.

The background sample exceeded drinking water criteria for total arsenic. There is no known anthropogenic source of arsenic in Bogus Creek. As arsenic occurs naturally at high concentrations in Alaska, ADEC anticipates that the elevated concentration of arsenic in the background sample is naturally occurring. The hardness value for the background sample was not representative of the other samples. The background sample hardness was 23, whereas downstream samples had a hardness ranging between 40 to 59. ADEC believes that despite the hardness difference Bogus Creek is still a good background for this study because it is outside of the area of influence of the sources of potential contamination. There is no potential for ecological risk in the background sample.

Concentrations of total metals in surface water did not exceed the drinking water criteria or three times the background concentration. Dissolved metals concentrations did not exceed the drinking water criteria, three times the background, or the most stringent hardness dependent criteria. The samples taken from the community drinking water collection areas (TR-13-W, TR-14-W, and TS-16-W), did not exceed drinking water criteria.

## **Part 1 – Superfund Eligibility Evaluation**

**If all answers are “no” go on to Part 2, otherwise proceed to Part 3.**

	<b>YES</b>	<b>NO</b>
1. Is the site currently in SEMS or an “alias” of another site?	X	
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		X
3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?		X
4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		X
5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exists (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA approved risk assessment completed)?		X

**Please explain all “yes” answer(s):**

The Tuluksak River site in SEMS, with an ID: AKN001002722.

## **Part 2 – Initial Site Evaluation**

For Part 2, if information is not available to make a “yes” or “no” response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

	<b>YES</b>	<b>NO</b>
1. Does the site have a release or a potential to release?	X	
2. Does the site have uncontained sources containing CERCLA eligible substances?	X	
3. Does the site have documented on-site, adjacent, or nearby targets?	X	

If the answers to questions 1, 2, and 3 above were all “yes” then answer the questions below before proceeding to Part 3.

	<b>YES</b>	<b>NO</b>
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		X
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within 1 mile)?	X	

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7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		<input checked="" type="checkbox"/>
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### Site Evaluation Information

In the 2009 SI, three TAL metals (cobalt, copper, and nickel) were detected in significant concentrations in the waste sand pile and six TAL metals (cadmium, chromium, cobalt, copper, nickel, and zinc) were detected at significant concentrations in the dredge spoils piles source. The only pathway being evaluated under this APA is the surface water exposure pathway. This pathway is evaluated as potential impact to human receptors because the community of Tuluksak uses the river water as a drinking water source and as a potential impact to ecological receptors.

Table 5: Surface Water Sample Locations

Sample	Location	Distance from Barge Landing	Notes
TR-13-W	Barge landing	0 miles	Supplies are delivered to Tuluksak via hovercraft barge during summer months. This location is used for barge landing, local boat launch, and drinking water collection. Sample taken from boat.
TR-14-W	Barge landing duplicate	0 miles	See barge landing.
TS-16-W	Tuluksak old BIA School	0.5 miles	Sample was taken from shore. This location is a local boat launching site and drinking water collection point.
TR-15-W	Bogus Creek, background sample	4 miles	Small creek just upriver of the community of Tuluksak. Sample taken from boat.
TR-10-W	Fog River	10 miles	Taken from boat, just upriver from the confluence of the Tuluksak River and the Fog River.
TR-11-W	Tuluksak River	10 miles	Taken from boat, just upriver from the confluence of the Tuluksak River and the Fog River.
TR-12-W	Tuluksak River, Fish Weir	16 miles	The USFWS has a seasonal camp and fish weir operation on the Tuluksak River. Fish weir was not in place at time of sampling. Sample taken from boat.

### **Surface Water Migration Pathway**

The Tuluksak River drainage is approximately 810 square miles. The headwater of the river consists of Granite Creek, Bear Creek, and California Creek all of which are located upstream of the Nyac townsite. The Nyac townsite lies approximately 70 miles upstream of the community of Tuluksak. The Fog River is a tributary of the Tuluksak River with a confluence located within 10 miles of the community of Tuluksak. As of 2006, the Tuluksak River is marked by the dredge tailings 1000 feet or more wide that extend almost continuously from the mouth of California Creek to about five miles below the Nyac townsite (E&E 2009) (see Photograph 8). According to the NOAA applied climate information system, the Bethel region receives, 51.6 inches of snowfall a year and 17.7 inches of precipitation. Depending on the time of year, seasonal snowpack, snowmelt or rainfall may impact the concentrations of naturally occurring metals and contamination in the Tuluksak River.

There is a potential for metals liberated from historic placer mining dredge spoils to impact the surface water of the Tuluksak River.

### **Drinking Water Exposure**

The community of Tuluksak does not have a local water provider for the community. Most residents haul water for domestic use from a number of sources. The community of Tuluksak has a public water system that serves the community washeteria and the Tuluksak School. The washeteria is located in the center of town. According to local community members, the washeteria is an inconsistent source for water collection. The Tuluksak School is not used for water collection by community members. As a result, many residents of Tuluksak use the river for their primary drinking water source.

ADEC reviewed information on the Alaska Department of Natural Resources (ADNR) well log tracking system (WELTS) and from ADEC Drinking Water Program and there are no private wells and one public well in the area (See Figure 3). The public water system well is the well located at the washeteria. There are three historic wells in the ADNR WELTS; however, according to community members these wells are not in use or have been removed.

Sample results for all locations were compared to the ADEC drinking water criteria, background concentrations, and three times the background concentrations. Concentrations of total metals were below ADEC drinking water criteria, background, and three times the background for Fog River (TR-10), Tuluksak River near confluence of Fog River (TR-11), barge landing (TR-13), and Old BIA School (TR-16) samples. Tuluksak River near the fish weir (TR-12) sample exceeded drinking water criteria and background for arsenic (table 6). Arsenic is found at naturally occurring high concentration in Alaska (ADEC 2009 *Arsenic Technical Memorandum*). This exceedance is attributed to natural sources. Concentrations of dissolved metals for all samples were below ADEC drinking water criteria, background, and three times the background (table 7).

### **Ecological Exposure**

Water quality criteria for the State of Alaska are established in the Water Quality Criteria for Toxics and Other Deleterious Substances (ADEC 2008). The types of criteria evaluated are drinking water, stockwater and irrigation water, aquatic life criteria for fresh water, aquatic life criteria for marine water, and human health consumption. The criteria for ecological receptors can be either acute or chronic. The acute criterion is to be met instantaneously at any point in the surface water and is an average of the pollutants during a one hour period. Chronic criteria are based on the average concentration of the pollutant during a four-day period.

The drinking water criteria is protective for fresh water uses for drinking, culinary, and food processing. Aquatic life criteria for fresh water is protective for fresh water use of aquaculture, and wildlife. Human health consumption is protective of the fresh water uses of drinking, culinary, food processing, and aquaculture, and harvesting for consumption of raw aquatic life. Human health consumption criteria can be applied to consumption of water and aquatic organisms or aquatic organisms only.

For this study, dissolved metals concentrations were compared to the most stringent water quality criteria. The most stringent criteria could be different for each metal. The criteria for arsenic, lead,

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chromium, silver, and mercury depends on the hardness of water. The most stringent criteria applied to the Tuluksak River were drinking water, aquatic life criteria, and human health consumption.

There is no apparent trend in dissolved metals concentration along the Tuluksak River. The concentrations of dissolved metals at the fish wier (TR-12) and the barge landing (TR-13) are not significantly different. Most metals were either non-detect or such a low concentration that the laboratory flagged the data as an estimate. There is a slight difference in dissolved metals concentration between the Fog River and the Tuluksak River. When comparing the Fog River (TR-10) and Tuluksak River (TR-11), we note that the concentration of barium and chromium is slightly higher in the Fog River. All samples were below the most stringent criteria for all pollutants (see tables 8A-8E).

Table 6: Surface water results for RCRA totalmetals compared to drinking water criteria.

	Drinking water criteria <sup>1</sup>	Background (TR-15)	Three times background	TR-10	TR-11	TR-12	TR-13	TR-14	TS-16
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Arsenic	0.01	0.010B	0.03	0.0084B	0.0067B	0.0063B	0.0078	0.0078B	0.0082
Barium	2	0.023	0.069	0.023	0.015	0.015	0.023	0.023	0.027
Cadmium	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.1a	0.0018	0.0054	0.0017	0.018	0.002	0.0019	0.0018	0.002
Lead	0.015	0.00022J	0.0066	0.00027J	ND	ND	0.00023J	ND	0.00037J
Selenium	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Silver	-	0.000067J	ND	ND	0.000060J	ND	ND	0.000061J	ND
Mercury	0.002	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. Drinking water criteria for all metals aside from lead are listed in Alaska water quality criteria for toxics and other deleterious organic and inorganic substances, dated December 8, 2008. Criteria for lead is listed in 18 AAC 80.505.
2. "ND" denotes that the analyte was not detected at a concentration above the detection limit.
3. "J" denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value.
4. B denotes that the compound was found in the blank sample
5. All sample results are shown in milligrams per liter (mg/L).
6. Drinking water criteria for chromium is the sum of all chromium oxidation states.
7. Sample TR-14 is a duplicate of TR-13.

Table 7: Surface water results for RCRA dissolved metals compared to drinking water criteria.

	Drinking water Criteria <sup>1</sup>	Background (TR-15)	Three times background	TR-10	TR-11	TR-12	TR-13	TR-14
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Arsenic	0.01	0.0071B	0.0213	0.0075B	0.0050B	0.0056B	0.0074B	0.0065B
Barium	2	0.022	0.066	0.022	0.013	0.0136B	0.02	0.02
Cadmium	0.005	0.00011J	0.00033	0.00042	ND	ND	0.00037J	ND
Chromium (III)	0.1a	0.0015	0.003	0.0019	0.0014	0.0015	0.0018	0.0016

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Lead	0.015	ND	ND	0.00042J	ND	ND	0.00038J	ND
Selenium	0.05	ND	ND	ND	ND	ND	ND	ND
Silver	-	0.00074	0.00222	0.00014J	ND	0.000059J	ND	ND
Mercury	0.002	ND	ND	ND	ND	ND	ND	ND
Hardness	-	23	N/A	59	41	40	42	43

Notes:

1. Drinking water criteria for all metals aside from lead are listed in Alaska water quality criteria for toxics and other deleterious organic and inorganic substances, dated December 8, 2008. Criteria for lead is listed in 18 AAC 80.505.
2. "ND" denotes that the analyte was not detected at a concentration above the detection limit.
3. "J" denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value.
4. B denotes that the compound was found in the blank sample
5. All results are in milligrams per liter (mg/L).
6. Drinking water criteria for chromium is the sum of all chromium oxidation states.
7. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.
8. Sample TR-14 is a duplicate of sample TR-13.

Table 8A: Surface water results for RCRA dissolved metals compared to most stringent hardness dependent criteria for background sample collected at Bogus Creek.

	Background sample (TR-15-W)	Most stringent hardness dependent criteria
Units	mg/L	mg/L
Arsenic	0.0071B	50 <sup>b</sup>
Barium	0.022	2,000 <sup>b</sup>
Cadmium	0.00011J	0.09 <sup>c</sup>
Chromium (III)	0.0015	22.24 <sup>c</sup>
Lead	ND	0.49 <sup>c</sup>
Selenium	ND	4.60 <sup>c</sup>
Silver	0.00074	0.28 <sup>d</sup>
Mercury	ND	0.05 <sup>e</sup>
Hardness	23	

Notes:

1. b drinking water criteria
2. C aquatic life freshwater, chronic
3. D aquatic life freshwater, acute
4. E human health consumption of water + aquatic organisms
5. J denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value
6. ND denotes that the analyte was not detected at a concentration above the detection limit.
7. All results are mg/L.
8. B denotes that the compound was found in the blank sample
9. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.

Table 8B: Surface water results for RCRA dissolved metals compared to most stringent hardness dependent criteria for TR-10-W

	TR-10-W	Most stringent hardness dependent criteria *
Units	mg/L	mg/L
Arsenic	0.0075B	50 <sup>b</sup>
Barium	0.022	2,000 <sup>b</sup>
Cadmium	0.00042	0.17 <sup>c</sup>

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Chromium (III)	0.0019	48.11 <sup>C</sup>
Lead	0.00042 <sup>J</sup>	1.41 <sup>C</sup>
Selenium	ND	4.60 <sup>C</sup>
Silver	0.00014 <sup>J</sup>	1.39 <sup>D</sup>
Mercury	ND	0.05 <sup>E</sup>
Hardness	59	

Notes:

1. b drinking water criteria
2. C aquatic life freshwater, chronic
3. D aquatic life freshwater, acute
4. E human health consumption of water + aquatic organisms
5. J denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value
6. ND denotes that the analyte was not detected at a concentration above the detection limit
7. All results are mg/L
8. B denotes that the compound was found in the blank sample
9. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.

Table 8C: Surface water results for RCRA dissolved metals compared to most stringent hardness dependent criteria for TR-11-W

	TR-11-W	Most stringent hardness dependent criteria *
Units	mg/L	mg/L
Arsenic	0.0050B	50 <sup>b</sup>
Barium	0.013	2,000 <sup>b</sup>
Cadmium	ND	0.13 <sup>C</sup>
Chromium (III)	0.0014	35.71 <sup>C</sup>
Lead	ND	0.94 <sup>C</sup>
Selenium	ND	4.60 <sup>C</sup>
Silver	ND	0.74 <sup>D</sup>
Mercury	ND	0.05 <sup>E</sup>
Hardness	41	

Notes:

1. b drinking water criteria
2. C aquatic life freshwater, chronic
3. D aquatic life freshwater, acute
4. E human health consumption of water + aquatic organisms
5. ND denotes that the analyte was not detected at a concentration above the detection limit.
6. All results are mg/L
7. B denotes that the compound was found in the blank sample
8. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.

Table 8D: Surface water results for RCRA dissolved metals compared to most stringent hardness dependent criteria for TR-12-W.

	TR-12-W	Most stringent hardness dependent criteria *
Units	mg/L	mg/L
Arsenic	0.0056B	50 <sup>b</sup>
Barium	0.0136B	2,000 <sup>b</sup>
Cadmium	ND	0.13 <sup>C</sup>
Chromium (III)	0.0015	34.99 <sup>C</sup>
Lead	ND	0.92 <sup>C</sup>

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Selenium	ND	4.60 <sup>C</sup>
Silver	0.000059 <sup>J</sup>	0.71 <sup>D</sup>
Mercury	ND	0.05 <sup>E</sup>
Hardness	40	

Notes:

1. b drinking water criteria
2. C aquatic life freshwater, chronic
3. D aquatic life freshwater, acute
4. E human health consumption of water + aquatic organisms
5. J denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value
6. ND denotes that the analyte was not detected at a concentration above the detection limit.
7. All results are in mg/L.
8. B denotes that the compound was found in the blank sample
9. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.

Table 8E: Surface water results for RCRA dissolved metals compared to most stringent hardness dependent criteria for TR-13-W.

	TR-13-W	TR-14-W (duplicate)	Most stringent hardness dependent criteria *
Units	mg/L	mg/L	mg/L
Arsenic	0.0074B	0.0065B	50 <sup>b</sup>
Barium	0.02	0.02	2,000 <sup>b</sup>
Cadmium	0.00037 <sup>J</sup>	ND	0.14 <sup>C</sup>
Chromium (III)	0.0018	0.0016	36.78 <sup>C</sup>
Lead	0.00038 <sup>J</sup>	ND	0.98 <sup>C</sup>
Selenium	ND	ND	4.60 <sup>C</sup>
Silver	ND	ND	0.79 <sup>D</sup>
Mercury	ND	ND	0.05 <sup>E</sup>
Hardness	42	43	

Notes:

1. b drinking water criteria
2. C aquatic life freshwater, chronic
3. D aquatic life freshwater, acute
4. E human health consumption of water + aquatic organisms
5. J denotes a result less than RL and great than or equal to the MDL. The concentration is an approximate value
6. ND denotes that the analyte was not detected at a concentration above the detection limit.
7. All results are in mg/L.
8. B denotes that the compound was found in the blank sample
9. The criteria for arsenic, cadmium, chromium (III), lead, silver, and mercury are hardness dependent.

### Part 3 – ADEC Site Assessment Decision

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “NFRAP” box below should be checked. Additionally, if the answer to question 4 in Part 2 is “yes,” then you have two options (as indicated in Exhibit 1): Option 1 -- conduct an APA and check the “Lower Priority SI” or “Higher Priority SI” box below; or Option 2 -- proceed with a combined PA/SI assessment.

Check the box that applies based on the conditions of the APA:

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X	NFRAP	Refer to Removal Program – further site assessment needed
	Higher Priority SI	Refer to Removal Program - NFRAP
	Lower Priority SI	Site is being addressed as part of another CERCLIS site
	Defer to NRC	Other: Refer to State for further evaluation

The ADEC recommends the EPA make a determination that the Tuluksak River site be indicated as No Further Remedial Action Planned.

ADEC Reviewers: Erin Gleason and Anne Marie Palmieri

**PLEASE EXPLAIN THE RATIONALE FOR YOUR DECISION:**

According to the August 2019 sample results, the surface water has not been impacted to an extent that would pose an unacceptable risk to humans when as drinking water or to aquatic receptors within the area that was sampled by ADEC. ADEC understands that the community obtains their water from the washeteria and from the Tuluksak River. No surface water impacts were measured in the buffer zone of the public water system located at the washeteria nor at the Barge Landing sample point (TR-13-W) where residents collect drinking water. This investigation did not include areas above the USFWS Fish Weir (see Photograph 7). It is possible upriver impacts are present; however, they are not impacting the surface water used by the community of Tuluksak at present.

None of the sample results exceeded the most stringent criteria for the protection of aquatic receptors as determined by the Alaska Water Quality Criteria. Depending on local hydrology and upriver mining activity, there could be a seasonal change in concentration of TAL metals in surface water of the Tuluksak River; however, due to the distance of the mine to the Tuluksak drinking water collection area and the volume of water in the Tuluksak River and surrounding watersheds, it is unlikely that any seasonal changes would result in an exceedance of Alaska's drinking water criteria in the river.

## Appendix A: Photographs



Photograph 1. Tuluksak River looking upstream from the community of Tuluksak.



Photograph 2. ADEC Staff train Tuluksak IGAP staff on how to collect dissolved and total metals samples from Tuluksak River.



Photograph 3. Empty 55 gallon metal drums found along river bank.



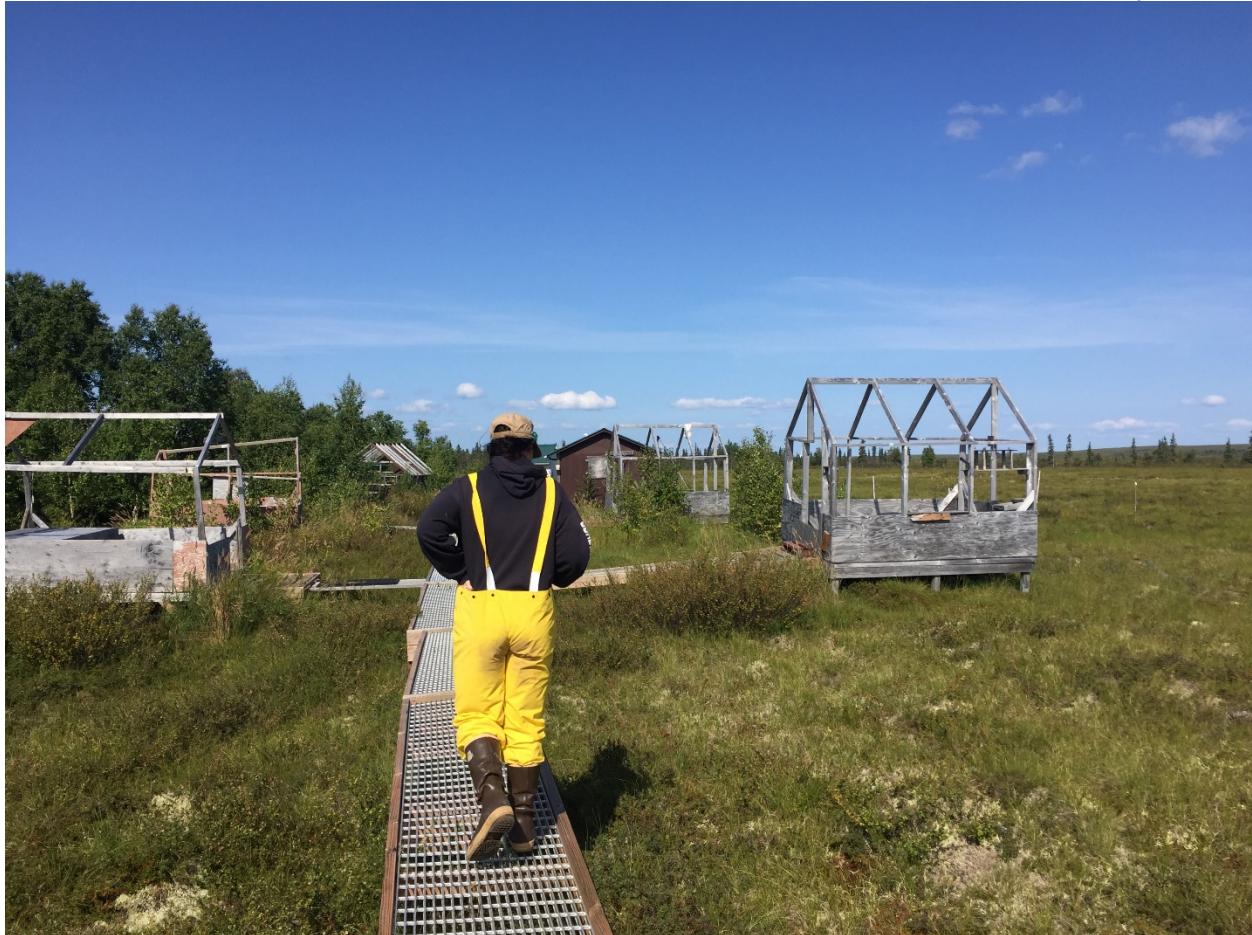
Photograph 4. 55 gallon metal drums found along river bank. Drums held some liquid contents.



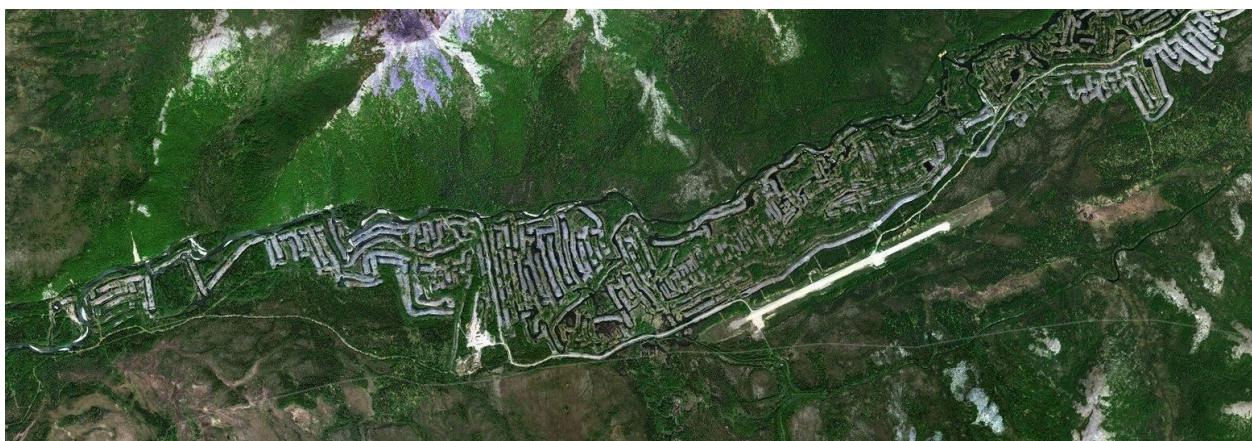
Photograph 5. Historic dredge found along the Tuluksak River. Three 55 gallons drums also pictured.



Photograph 6. Taiga located next to the Tuluksak River.



Photograph 7. ADEC staff walk along boardwalk at the USFWS fish weir camp along the Tuluksak River. River is located to the left in this photograph.



Photograph 8. Aerial photograph of the Tuluksak River and placer mining dredge spoils downstream from the Nyac townsite. Current mining operation, roads, and airstrip are seen south of the river. Scale one inch=1,000 feet (Bing Maps 2020).

## Appendix B: Site maps



Figure 1: Area map of the confluence of the Kuskokwim River, Tuluksak River, and Fog River.

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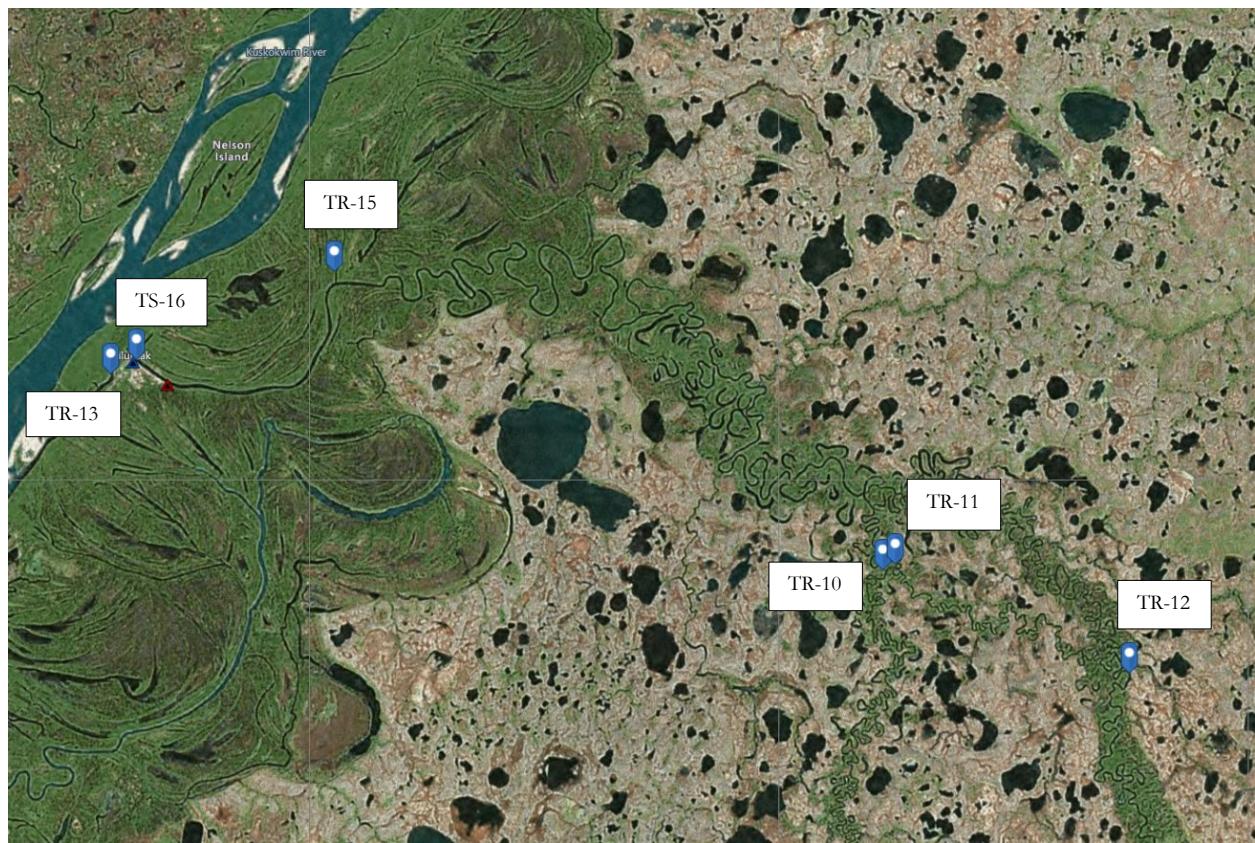


Figure 2: Aerial figure of ADEC surface water sample location with Sample ID (blue pins).



Figure 3. The community of Tuluksak with the community water system (blue crossed circle) and associated buffer zones (1,000 foot surface water buffer shown in red and one mile surface water buffer shown in orange). Historic unused wells are shown in green and light blue circles.

## Appendix C: ADEC Data Review Checklist

Completed By:

Erin Gleason

Title:

Environmental Protection Specialist 3

Date:

3/24/2020

CS Report Name:

Tuluksak River APA

Report Date:

May 2020

Consultant Firm:

n/a

Laboratory Name:

Eurofins/TestAmerica Laboratories, Inc

Laboratory Report Number:

580-88695-1

ADEC File Number:

Hazard Identification Number:

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes     No

Comments:

--

b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes     No

Comments:

n/a

n/a
-----

2. Chain of Custody (CoC)

a. CoC information completed, signed, and dated (including released/received by)?

Yes     No

Comments:

--

b. Correct Analyses requested?

Yes     No

Comments:

Labels have the incorrect methods written on all contains. The nitric acid has dissolved metals; however, this is the container for total metals/hardness. The laboratory used the correct container for the analysis needed. Data was not influenced.

Labels have the incorrect methods written on all contains. The nitric acid has dissolved metals; however, this is the container for total metals/hardness. The laboratory used the correct container for the analysis needed. Data was not influenced.
--

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes     No

Comments:

1.5 and 1.8 degrees C

1.5 and 1.8 degrees C
-----------------------

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes     No

Comments:

Preservation used for total metals, nitric acid solution.

Preservation used for total metals, nitric acid solution.
---

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes  No

Comments:

No broken or leaking containers

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes  No

Comments:

Labeling documented in job narrative on page 3/165 of the lab package.

e. Data quality or usability affected?

Comments:

no

#### 4. Case Narrative

a. Present and understandable?

Yes  No

Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes  No

Comments:

Lead and arsenic was detected in the method blank greater than the method detection limit but less than reporting limit. Data not impacted. One of the samples was under volume for the 7470A analysis (mercury), but lab was able to run analysis as normal. Data not impacted.

c. Were all corrective actions documented?

Yes  No

Comments:

- d. What is the effect on data quality/usability according to the case narrative?

Comments:

None

## 5. Samples Results

- a. Correct analyses performed/reported as requested on COC?

Yes     No

Comments:

The chain of custody had the preservation and sample container flipped for total and dissolved metals. The lab analyzed according to the method and not the COC

- b. All applicable holding times met?

Yes     No

Comments:

- c. All soils reported on a dry weight basis?

Yes     No

Comments:

n/a

- d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes     No

Comments:

- e. Data quality or usability affected?

Yes     No

Comments:

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes     No

Comments:

--

ii. All method blank results less than limit of quantitation (LOQ)?

Yes     No

Comments:

--

iii. If above LOQ, what samples are affected?

Comments:

n/a
-----

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

n/a
-----

v. Data quality or usability affected?

Comments:

n/a
-----

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes     No

Comments:

Not applicable to water samples for metals analysis
---

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes     No

Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes     No

Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes     No

Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

No.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes     No

Comments:

N/A

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes     No

Comments:

N/A

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes     No

Comments:

n/a

iv. Data quality or usability affected?

Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?  
(If not, enter explanation below.)

Yes     No

Comments:

n/a – no trip blank needed

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes     No

Comments:

iii. All results less than LOQ?

Yes     No

Comments:

iv. If above LOQ, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes     No

Comments:

ii. Submitted blind to lab?

Yes     No

Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs?  
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \frac{\text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100}{}$$

Where  $R_1$  = Sample Concentration

$R_2$  = Field Duplicate Concentration

Yes  No

Comments:

Total metals was 5.4% for chromium, all others had RPD of zero. Dissolved metals was 12% for arsenic and 11% for chromium (III), all other metals had an RPD of zero. RPD was zero because most compounds were none detect and an RPD could not be accurately calculated.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No. RPDs meet the specified percentage.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below).

Yes  No  Not Applicable

Only disposable field equipment was used.

i. All results less than LOQ?

Yes  No

Comments:

n/a

ii. If above LOQ, what samples are affected?

Comments:

n/a

iii. Data quality or usability affected?

Comments:

n/a

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes     No

Comments:

None reported

## **Appendix D: Sampling and Analysis Plan**

# **Sampling and Analysis Plan**

## **Tuluksak Site Discovery**



August 2019

Prepared by:

Alaska Department of Environmental Conservation  
Contaminated Sites Program  
Site Discovery Program

## Preface

This Sampling and Analysis Plan (SAP) is a supplement to the Quality Assurance Project Plan (QAPP) for the Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Program (CSP) Site Discovery Program (SDP). Information provided in the QAPP regarding Quality Assurance/Quality Control (QA/QC) procedures and sample collection methods are referenced, but not repeated herein.

## Distribution List

- Anthony Buzz, Tuluksak Native Community
- Joseph Demantle, Tulkisarmute Incorporated

## Project Organization

Individual assigned	Organization	Title	Responsible for:	Phone	Email
Anne Marie Palmieri	ADEC	EPS 4, site discovery lead	Reporting, contact with EPA	907-766-3184	<a href="mailto:annemarie.palmieri@alaska.gov">annemarie.palmieri@alaska.gov</a>
Erin Gleason	ADEC	EPS 3, site discovery	Field work, reporting	907-269-7556	<a href="mailto:erin.gleason@alaska.gov">erin.gleason@alaska.gov</a>
Lisa Griswold	ADEC	EPS 3, site project manager	Field work, Brownfield coordinator	907-451-2021	<a href="mailto:lisa.griswold@alaska.gov">lisa.griswold@alaska.gov</a>

## **Section 1: Introduction**

The CSP is conducting characterization activities at four separate potential sites in Tuluksak as a multi-funded collaborative effort. The investigation of the Tuluksak River is being conducted as part of the CSP's Cooperative Agreement #V-00J85603-3 with the Environmental Protection Agency (EPA). The CSP will report the results of the water samples from the Tuluksak River to the EPA as an Abbreviated Preliminary Assessment (APA) report, fulfilling the CSP's EPA grant responsibility. The investigation at the Tuluksak Old Power Plant is being conducted under the CSP's State and Tribal Response Program Cooperative Agreement #RP-00J26108 with the EPA to provide information to Tulkisarmute Incorporated in advance of a potential Brownfields application. The results from the other areas of concern will be reported as site specific Limited Site Assessment (LSA) reports. This document details the technical and analytical methods the CSP will employ during field work and is a supplement to the CSP QAPP, which defines the quality assurance protocols and data analysis techniques that will be used.

### **Problem Definition**

The objective of this project is to perform an investigation of four areas of concern. It includes conducting four site visits, and collecting analytical soil and water samples to determine if there is contamination present at the areas of concern, and, if so, identifying potential and complete exposure pathways. The areas of concerns are; Tuluksak Old Bureau of Indian Affairs (BIA) School, Tuluksak Old Power Plant, Tuluksak River Drums, and Tuluksak River.

#### *Tuluksak Old Bureau of Indian Affairs (BIA) School*

In 2010, in response to a request by the Tuluksak Native Community, CSP provided DEC Brownfield Assessment and Cleanup (DBAC) services at the Tuluksak Old BIA School. The property currently contains an old building (often referred to as the school power generator shed or old BIA power plant). The site previously contained a school. The generator shed is no longer in use. There is record of historic underground storage tanks (UST) on the property. The status of the USTs are unknown. There are no reported releases at the site; however, community members have observed and documented diesel contamination in the soil.

#### *Tuluksak Old Power Plant*

In 2010, in response to a request by the Tuluksak Native Community, CSP provided DBAC services at the Tuluksak Old Power Plant. The property contains the old power plant building. The soil is contaminated with petroleum and may have other contaminants including the eight resource conservation and recovery act (RCRA) metals, mercury, and polychlorinated biphenyls (PCBs). Scrap metal was removed from the site after the 2010 DBAC activities.

#### *Tuluksak River Drums*

The Tuluksak Native Community (TNC) first contacted CSP about the presence of the Tuluksak River bank scrap metal and drums along the Tuluksak River in an August 2016 email. The TNC took photographs and documented five different areas with scrap metal and drums. The TNC is concerned that there may have been releases of petroleum contamination and other contamination at the scrap metal and drum locations. In 2019, TNC contacted the DEC, Division of Water regarding the drums, who, in turn, contacted CSP.

#### *Tuluksak River Investigation*

Placer mining has been conducted in the upper reaches of the Tuluksak River for over 100 years. Additionally, dredging of the Tuluksak River has been conducted (E&E 2009). Due to the mining practices in the area, it is possible that contamination may have migrated from the mines and dredge spoils from up River to the town of Tuluksak. The community of Tuluksak is concerned that their river water may be impacted due to upriver mining activity.

In 2009, the EPA contracted Ecology and Environment Inc., (E&E) to complete a site inspection of the Tuluksak River to determine the potential threat to public health of the environment from possible mining related contamination, to determine the potential for a release of hazardous constituents into the environment, and to determine the potential for the placement of the site on the National Priorities List (NPL). E&E collected soil and sediment samples as part of their field effort. Following reports of use of the river for drinking water, EPA requested that CSP collect surface water samples from the river so that this pathway could be evaluated.

This SAP is organized as follows:

- Section 1 Introduction
- Section 2 Site Description, Operational History, and Waste Characteristics
- Section 3 Previous Investigations
- Section 4 Sources and Targets
- Section 5 Sampling Process Design
- Section 6 Data Quality Objectives
- Appendix A-E

This SAP defines the objectives and scope for sampling activities at the Tuluksak Old BIA School, Tuluksak Old Power Plant, Tuluksak River Drums, and the Tuluksak River, which will be performed by the CSP.

## **Section 2: Site Information**

### Site Location and Description

The community of Tuluksak is located in western Alaska near the mouth of the Tuluksak River, a tributary of the Kuskokwim River. It is 35 miles north of Bethel and 350 miles from Anchorage. It is accessible only by air and water.

*Tuluksak Old BIA School* The Tuluksak Old BIA School is located within USS 875, in the NE1/4 NW1/4 SW1/4 Section 27 Township 12 North Range 66 West Seward Meridian near the intersection of the unnamed road along the Tuluksak river and the unnamed road leading to the Tuluksak airport. The school was originally built by the BIA in the 1930s, but it burned down in the 1990s. BIA activity in Tuluksak ceased around 1985. The property is owned by TNC and is not currently being used (figure 1). The Old BIA School is entered in the CSP database as an informational site with the file number 2451.57.002.

### *Tuluksak Old Power Plant*

The Tuluksak Old Power Plant is located in S1/2 SW 1/4 SW 1/2 Section 26, Township 12 North Range 66 West Seward Meridian at the eastern end of the unnamed road along the Tuluksak River (figure 1). The power plant consisted of a diesel generator inside a wooden building (figure 4) and was operated until 2003 when the new power plant was built off property. The building and generator are still present on site. The property is owned Tulkisarmute Incorporated. A 2010 Property Assessment and Cleanup Plan (PACP) report documented diesel fuel and used oil contamination, lead acid batteries, transformers, and solid waste/scrap metal on the site. After the PACP, some of the scrap metal was removed by TNC. The Old Power Plant is entered in the CSP database as a brownfield site with the file number 2451.57.001.

### *Tuluksak River Drums*

Miscellaneous drums and scrap metal have been documented on the river bank upstream from the town of Tuluksak. To date, five locations have been reported and photographed (figure 3). The exact location of these drums is unknown. The river directly upstream from the town is located in S012N065W and S012N066W. The property is owned by the United States Bureau of Land Management (BLM).

### *Tuluksak River Investigation*

The area of the Tuluksak River directly upstream from the town is located in S012N065W and S012N066W (figure 2). In the 2009 E&E report, nine possible mines and/or prospect and dredge spoils piles were identified as possible contributors to potential elevated metals concentrations in the Tuluksak River. Contaminants may be entering the river at numerous points. This is of concern because some community members may use the Tuluksak River as their drinking water source.

Figure 1: Aerial map of Tuluksak. The Tuluksak Old BIA School site is shown with the blue triangle. The Tuluksak Old Power Plant site is shown with the red triangle.



Figure 2: Area map of the confluence of the Kuskokwim River, Tuluksak River, and Fog River.



Figure 3. Photograph of miscellaneous drums and scrap metal along the Tuluksak River. Exact location unknown (photo credit TNC).



Figure 4. Photograph of wooden generator building at the Old Power Plant site.



### **Section 3: Previous Investigations**

#### *Tuluksak Old BIA School*

In 2009-2010, ADEC Brownfield funded a Property Assessment and Cleanup Plan (PACP) at the Old Tuluksak BIA school. The PACP provides a historical summary for the site, description of the property, assessment of human health risk, documented areas of potential contamination (see figure 5) and made recommendations for characterization and cleanup of the property. No samples were collected as part of the PACP.

#### *Tuluksak Old Power Plant*

In 2009-2010, ADEC Brownfield funded a PACP at the Old Tuluksak Power Plant. The PACP provides a historical summary for the site, description of the property, assessment of human health risk, documented areas of potential contamination (see figure 6) and made recommendations for characterization and cleanup of the property. No samples were collected as part of the PACP.

#### *Tuluksak River Drums*

There have been no previous investigation of the drums and scrap metal along the Tuluksak River

#### *Tuluksak River Investigation*

In 2008-2009, the EPA contracted E&E to perform a site inspection (SI) at the Tuluksak River. Sediment and soil samples were collected from three sources areas along the Tuluksak River, Bear Creek, and Granite Creek. (Both Granite Creek and Bear Creek are drain into the Tuluksak River and are upstream of the town of Tuluksak). The soil sample results showed concentrations of arsenic greater than the DEC migration to groundwater-based exposure pathway cleanup levels, but lower than the human health-based exposure pathway cleanup levels. The sediment sample results showed concentrations of arsenic, cadmium, copper, manganese, and nickel greater than the National Oceanic and Atmospheric Administration's (NOAA's) Sediment Quick Reference Table (SQUIRT) values. Cobalt, copper, and nickel were detected at least three times the background concentration in Granite Creek and Bear Creek. Cobalt and nickel were detected at least three times the background concentration in the upper portion of the Tuluksak River. The target distance limit for the surface

water migration pathway did not extend to the town of Tuluksak. Fisheries and wetlands were present in the zone of contamination.

Figure 5. Aerial photograph of the Old Tuluksak BIA School site from the 2010 SLR PACP. Areas of contamination are noted in blue call out boxes



Figure 6. Aerial photograph of the Old Tuluksak Power Plant site from the 2010 SLR PACP. Areas of contamination are noted in blue call out boxes.



## **Section 4: Potential Sources and Potential Receptors**

### Potential Sources of Contamination

Potential sources of contamination within the scope of this investigation are the diesel generator and supporting tanks at both the Old Tuluksak BIA School and the Old Tuluksak Power Plant, lead acid batteries, transformers, and solid waste/scrap metal at the Old Tuluksak Power Plant, placer mining dredge spoils migrating to the Tuluksak River, and fuel storage drums at the river bank locations. The contaminants of potential concern are:

#### *Tuluksak Old BIA School*

- Diesel range organics (DRO)
- Residual range organics (RRO)
- Polycyclic aromatic hydrocarbons (PAH)
- Volatile Organic Compounds (VOCs)
- Ethylene dibromide (EDB)
- 1,2 Dichloroethane (DCA)
- Polychlorinated biphenyls (PCBs)

#### *Tuluksak Old Power Plant*

- DRO
- RRO
- PAH
- VOCs
- EDB
- DCA
- RCRA 8-Metals
- Mercury

#### *Tuluksak River Drums*

- DRO
- RRO

#### *Tuluksak River*

- RCRA 8-Metals
- Mercury

### Targets

CSP will evaluate potential targets in the surface water and soil pathways at the different areas of concern, as applicable.

During the field investigation, the following information will be evaluated:

- Presence of stained soil and associated contaminated soil;
- Presence of scrap metal/solid waste and associated contaminated soil;

- Presence of drums and other fuels storage
- Presence of electrical transformers and lead acid batteries
- Presence of any contamination sources along the Tuluksak River

During the site visit, CSP will also identify additional potential sources of contamination, potential receptors, and complete/incomplete exposure pathways.

## Section 5: Sampling Process Design

A judgment-based sampling methodology will be used for sampling at all areas of concern. Final sample locations will be determined in the field and samples will be collected at locations having the highest probability of contamination, such as areas of stained soil. Water samples will be collected from the area where residents collect their drinking water and from locations upstream. The upstream locations will be determined in the field.

An x-ray fluorescence (XRF) will be used to identify the locations of the highest concentrations of metals in soil prior to collection of analytical samples. A photoionization detector (PID) will be used to identify the locations of the highest concentrations of volatile hydrocarbons in soil prior to collection of analytical samples. All sampling activities will be conducted in accordance with the ADEC's *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites*, dated August 2017.

CSP will conduct a site-walk throughs and determine sampling areas at each area of concern based on field information. The sampling locations will be in areas of distressed or dead vegetation, surface stains, adjacent to tanks or other contamination sources. Locations of batteries and transformer will be identified, specifically noting if the batteries are broken or intact. The location of the river water samples will be at the location where local residents collect drinking water and up river adjacent to potential sources, such as or dredge spoils.

The estimated numbers of samples and analytical methods are outlined in Tables 3 and 4, below. The exact number of samples that will be collected for each analyses will be determined in the field and based on site conditions. In general, the following methodology will be followed for determining analyses:

- Soil near the Old Tuluksak Power Plant:
- Soil and water near the Old BIA School:
- Soil near Tuluksak River drums
- Water in the Tuluksak River:

Table 3: Soil Sample Numbers and Analyses

Analyte	Analytical Method	Estimated Number of Samples
DRO/RRO	AK102/103	20
RCRA-8 metals	6020A	6
Mercury	7471A	6
EDB/DCA	8011	13
VOC	8260C/8260C SIM	13
PAH	8270D/8270 SIM	13
PCBs	8082A	5

Table 4: Surface Water Sample Numbers and Analyses

Analyte	Analytical Method	Estimated Number of Samples
Total RCRA-8 metals	6020A	6
Total Mercury	7470A	6
Dissolved RCRA 8-Metal	6020A dissolved	6

Dissolved Mercury	7470A	6
Hardness	SM 2340C	6
BTEX	8260C	8
PAH	8270D SIM	8

### Sampling Methodologies

This section summarizes the sampling methods that will be employed for the investigation. Detailed information can be found in the QAPP. All samples collected will be maintained under chain-of-custody and shipped in iced coolers as soon as possible to the laboratory.

Soil and surface water are the anticipated matrices to be sampled. Sampling locations and analyses are judgment-based and will be determined based on observations made once on-site. All field sampling will be performed by a Qualified Environmental Sampler, in accordance with 18 AAC 75.333. Sampling efforts will be biased to target locations that are potential and/or known sources of COCs and locations and media potentially impacted by the migration of COCs. The objective of the sampling effort is to document through field screening and analytical sampling whether a release has occurred, determine what types of contaminants have been released at the site from known sources, and identify possible complete exposure pathways and targets. Discrete sampling methods will be used and all sampling will comply with the ADEC's *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites*.

All sample locations will be described in the field notebook and located on a site sketch. Photographs and global position system (GPS) readings will be collected of the sample locations. The date and time that each sample is collected will be recorded in the field logbook, as well as any specific potentially relevant information.

An XRF will be used in the field to aid in sample selection for metals analyses. XRF samples having the highest concentrations of metals will be selected for laboratory analysis. The XRF will be placed inside a 2-gallon plastic bag for weather protection, if needed. Prior to field deployment, the XRF will be tested to verify accurate calibration using analytical standards, including a blank. When using, the XRF will be placed in direct contact with the soil to be tested and allowed to make an appropriate reading. The results will be tabulated in the field notebook.

A PID will be used in the field to aid in sample selection for VOC and PAHs. PID samples having the highest concentration of VOCs will be selected for laboratory analysis. In accordance with the ADEC *Field Sampling Guidance*, a heated headspace field screening procedure will be used. Soil will be placed in a polyethylene bag, agitated for 15 seconds. The samples will then be allowed to develop for at least ten minutes but no longer than 60 minutes at 40 degree F or greater. After the development period samples will again be agitated for 15 seconds to aid in volatilization. After agitation, the PID probe will be placed directly in the bag to collect a reading. The highest meter reading will be recorded. A moisture filter will be used on the end of the probe to prevent soil and water from entering the probe. The PID will be calibrated prior to departure to Tuluksak with 100 ppm isobutylene calibration gas. In the event the PID readings appear irregular, a fresh air field calibration will be performed. Soil from headspace sampling will not be used for subsequent laboratory samples.

*Soil Sample Collection* - A fresh pair of nitrile gloves will be worn and changed before each analytical sample is taken. Samples will be taken from depths ranging from ground surface to 6 inches below ground surface. A clean, trowel and metal spoon will be used to collect soil samples. Samples will be

collected in order of volatility, with VOC samples collected first. Soil for VOC samples will not be mixed, but rather placed directly in the laboratory provided glass jar. If samples are heterogeneous, they will be placed into a disposable bowl and mixed removing any large rocks and/or organic litter prior to being placed into laboratory provided glass jars. A duplicate sample will be collected for every ten samples. Metals samples do not require special preservation; however, VOC samples must be preserved in methanol. All samples will be maintained between 0 and 6° C by storing them in a sample cooler with gel ice.

*Surface Water Sample Collection-* A fresh pair of nitrile gloves will be worn and changed before each analytical sample is taken. Subsurface grabs samples will be hand collected directly from the Tuluksak River. The samples will be collected near the bank of a river and in an area of flow. Total metal samples will be collected in clean polyethylene bottles without preservative. Dissolved metal samples will be collected in a clean polyethylene bottle with nitric acid preservative. The total metals sample bottle will be opened and closed under the water so it has no contact with the surface. The total metals bottle will be used to collect and fill both sample bottles. VOC samples will be collected in a 40 ml glass vial with hydrochloric acid preservative. PAH samples will be collected in a 250 ml glass bottle. The PAH bottle will be used to fill the VOC sample vial. The PAH sample bottle will be opened and closed under the water so it has no contact with the surface. The VOC vial will be filled to a positive meniscus, capped, and checked for air bubbles. Samples may not contain bubbles greater than three millimeters. Water samples will not be filtered in the field. Labels will be placed directly on sample vials and bottles. A duplicate sample will be collected for every ten samples. All samples will be maintained between 0 and 6° C by storing them in a sample cooler with gel ice. An up-gradient background sample location will be determined in the field and a background sample for total and dissolved metals will be collected.

#### Sample Handling and Custody

The basic labeling strategy will be used to a prefix indicating the site it originated from, number the sample sequentially in the order collected, and add a suffix to indicate matrix type. Soil will be abbreviated SO and water will be abbreviated W. For the Tuluksak Old BIA School site, soil samples will be labeled: TS-(sample number)-SO and water samples will be labeled TS-(sample number)-W. For the Tuluksak Old Power Plant site, all soil samples will be labeled: TPP-(sample number)-SO. For the Tuluksak River Samples, all samples will be labeled: TR- (sample number)-W. For the drum sampling along the Tuluksak River, all soil samples will be labeled: TD-(sampled number)-SO.

The samples will remain in the custody of the sample team until they are transferred to another person, under proper chain of custody protocol. A chain of custody record will be completed for each batch of samples, and included in the sample cooler to be sent to the laboratory. A duplicate copy of the chain of custody will be made for CSP records.

The samples will be transported to Test America, an ADEC approved lab, via Alaska Airlines Goldstreak. The samples will be wrapped in bubble wrap inside coolers outfitted with gel ice. Multiple gel packs will be frozen prior to the day of travel in order to ensure that the temperature of the samples remain between 0 and 6° C.

Eurofins TestAmerica, Seattle  
5755 8<sup>th</sup> Street East  
Tacoma, WA 98424  
Phone: 253-248-4972

Fax: 253-922-5047  
ATTN: Elaine Walker

Alaska Airlines Known Shipper Information  
CID=54369  
Alaska DEC, Contaminated Sites Program  
410 Willoughby Avenue  
Juneau, Alaska 99801

#### QA/QC Samples

QA/QC procedures are outlined in detail in the QAPP. Briefly, one (1) duplicate sample will be collected for each set of 10 samples, or portion thereof, collected for each matrix analyses. A daily duplicate is not required. A field blank is required. TestAmerica will follow standard QA/QC procedures, as stated in the QAPP and individual analytical method. The CSP will complete laboratory data checklists for each sample batch.

#### Supplies

XRF instrument  
PID  
Black sharpie markers, pencils, pens  
Rite in the Rain field notebook  
Sterile/clean latex or nitrile gloves  
Camera  
Satellite phone  
Personal flotation device  
Laboratory-provided sampling containers and preservative  
Laboratory provided coolers  
Laboratory provided gel ice  
Trowels  
Spoons  
Disposable plastic bowls  
Scale  
Chain of custody forms  
Hazardous shipping forms  
Paper towels  
Bug spray  
Scrub brush  
Simple Green  
Measuring tape  
Garmin GPS  
Bubble wrap  
Packing tape  
First Aid Kit  
Clipboards  
1&2 gallon ziplock bag  
1 quart ziplock bags  
Trash bags

Backpacks

PPE: gloves, safety glasses, vests, ear plugs

#### Sampling Equipment Decontamination

All trowels and spoons will be decontaminated prior to arriving at the site. In the event that field decontamination is required, spoons and trowels will be sprayed with simple green, scrubbed with a brush, and dried with paper towel.

#### Investigation-Derived Waste

Every effort will be made to minimize the generation of investigative-derived waste. Disposable sampling gear and contaminated paper towels will be contained in a dedicated gallon polyethylene bag and disposed of at the local class 3 landfill.

#### Schedule

Field activities:	August 19-23, 2019
Analytical results:	10 days from submittal
Submit Tuluksak River APA to EPA:	Mid-December 2019
Submit Tuluksak River APA to EPA:	By June 30, 2020

## **Section 6: Data Quality Objectives**

The Data Quality Objective (DQO) process is a system used to define project decisions, the data quality needed to support the decisions, the data types needed, and data collection requirements. It safeguards that the analytical techniques used in the investigation will generate the specified data quality (EPA 2000) and that the resources required to generate the data are justified. More information on data quality can be found in the QAPP.

There are seven steps and the output from each step influences the choices that will be made later in the process. The DQO steps as defined by the EPA are:

1. State the problem.
2. Identify the decision.
3. Identify the inputs to the decision.
4. Define the study boundaries.
5. Develop a decision rule.
6. Specify tolerable limits on decision errors.
7. Optimize the design.

### Step 1: Problem Statement

The first step in the DQO process is to clearly state the problem to be addressed. The intent of this step is to clearly define the problem so that the focus of the sampling and analysis will be unambiguous.

Problem statement: Data is required to determine if there are elevated concentrations of contaminants of concern (COCs) at the site, and, if so, does the contamination pose a risk or potential risk to human health and the environment, and, if so, does site require further investigation.

### Step 2: Decision Statement

This step in the DQO process is used to identify the decisions and the potential actions that will be affected by the data collected. Crafting a decision statement is performed by specifying a principal study question, alternative actions that could result, and a resulting decision statement.

Analytical samples collected will be used to answer the following Principal Study Questions:

- Are COCs present in soil at concentrations that exceed the respective DEC cleanup or screening levels?
- Are COCs present in water at concentrations that exceed the respective Alaska water quality criteria (18 ACC 70) and drinking water criteria (18 AAC 80) or three times the natural background value.

### Step 3: Decision Inputs

The purpose of this step is to identify informational inputs that are required to resolve the Decision Statement and to determine which inputs require measurement. The necessary inputs to address the Decision Statement are the concentrations of COCs present in various media. During this step of the DQO process, the basis for a screening level is established. The screening levels for this project are listed below.

### *Soil*

Maximum detected concentrations in soil will be compared to the ADEC Method 2 most stringent exposure pathway cleanup levels for migration to groundwater or human health for the under 40-inches of rainfall climate zone, as defined in 18 AAC 75.341(c), Table B1.

### *Water*

Maximum detected concentrations in water will be compared to the most stringent cleanup level for fresh water as defined in the ADEC Water Quality Standard (18 AAC 70) and the Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances dated December 12, 2008.

### Step 4: Study Boundaries

Step 4 in the DQO process defines the spatial and temporal boundaries of the study covered by the Decision Statement. The spatial boundaries define the physical extent of the study area and may be subdivided into specific areas of interest. The temporal boundaries define the duration of the study or specific parts of the study.

The spatial boundaries for sampling are the Tuluksak River and USS 875, the NE1/4 NW1/4 SW1/4 Section 27 Township 12 North Range 66 West Seward Meridian, and S1/2 SW 1/4 SW 1/2 Section 26, Township 12 North Range 66 West Seward Meridian.

The temporal boundaries of the study involves the timeframe in which the decision applies and determining when to collect data. The project schedule is defined below but may change due to weather and time constraints as necessary.

Table 2: Temporal Boundaries of the Study

Event	Approximate date(s) of Completion
Field Sampling	August 19-22, 2019
Sample Delivery to Laboratory	August 23, 2019
Laboratory Analyses Complete	September 15, 2019
ADEC Draft APA to EPA	Mid-December 2019
ADEC Final APA to EPA	By June 30, 2020

### Step 5: Decision Rule

The objective of this step is to define the parameter(s) of interest in the population being characterized and integrate previous DQO outputs into statements defining conditions that direct decision at the areas of concern.

If the concentration of at least one COC in the media sampled in an investigated area exceeds its cleanup or screening level, or if evidence of contamination is observed at the site outside of the sampling boundaries, then further evaluation of the site may be necessary.

If the concentrations of COCs in the media sampled do not exceed their cleanup or screening levels and if no visual observation is made of contamination outside the sampling boundaries, then no further evaluation of the site will be required.

### Step 6: Decision Error Limits

The purpose of this step is to minimize data uncertainty by specifying tolerable limits on decision errors that are used to establish performance goals for the data collection design. It is necessary to determine the possible range for the parameter of interest and to define both the types of decision errors and the potential consequences of the errors.

The two types of decision errors for the characterization of sample data are either (a) determining that the concentrations of all COCs for a sampled area are less than the corresponding screening levels when, in fact, at least one exceeds the screening level, or (b) determining that the concentration of at least one COC of a sampled area exceeds its screening level when, in fact, none of them do.

The outcome of the first error is the determination that no further assessment is needed and the site does not pose a threat or potential threat to human health and/or the environment when it may. The second error type could result in further assessment and cost. The least favorable of these errors is the first where a COC exceeding its screening level is overlooked and no further assessment is conducted based on the incorrect decision. In the second case, more assessment would occur and an appropriate decision would be made.

### Step 7: Design Optimization

The purpose of design optimization in the DQO process is to identify the best sampling and analysis approach that satisfies all of the previous steps in the process. The activities involved in design optimization include:

- Reviewing the outputs of the first six steps and existing environmental data;
- Developing general data collection design alternatives; and
- Selecting the most resource-effective data collection design that satisfies all of the DQOs.

Sample locations will be selected based upon site history and information gathered prior and during the site visit. Samples will be collected from biased areas with the highest likelihood of contamination based on XRF screening results, PID screening results, and field observations.

## Appendix A: Historic Aerial Photographs for the Old Tuluksak Power Plant Site

1959 (source 2010 SLR PACP)



1983 (Source 2010 SLR PACP)



Appendix B: Historic Aerial Photographs for the Old Tuluksak Power Plant Site

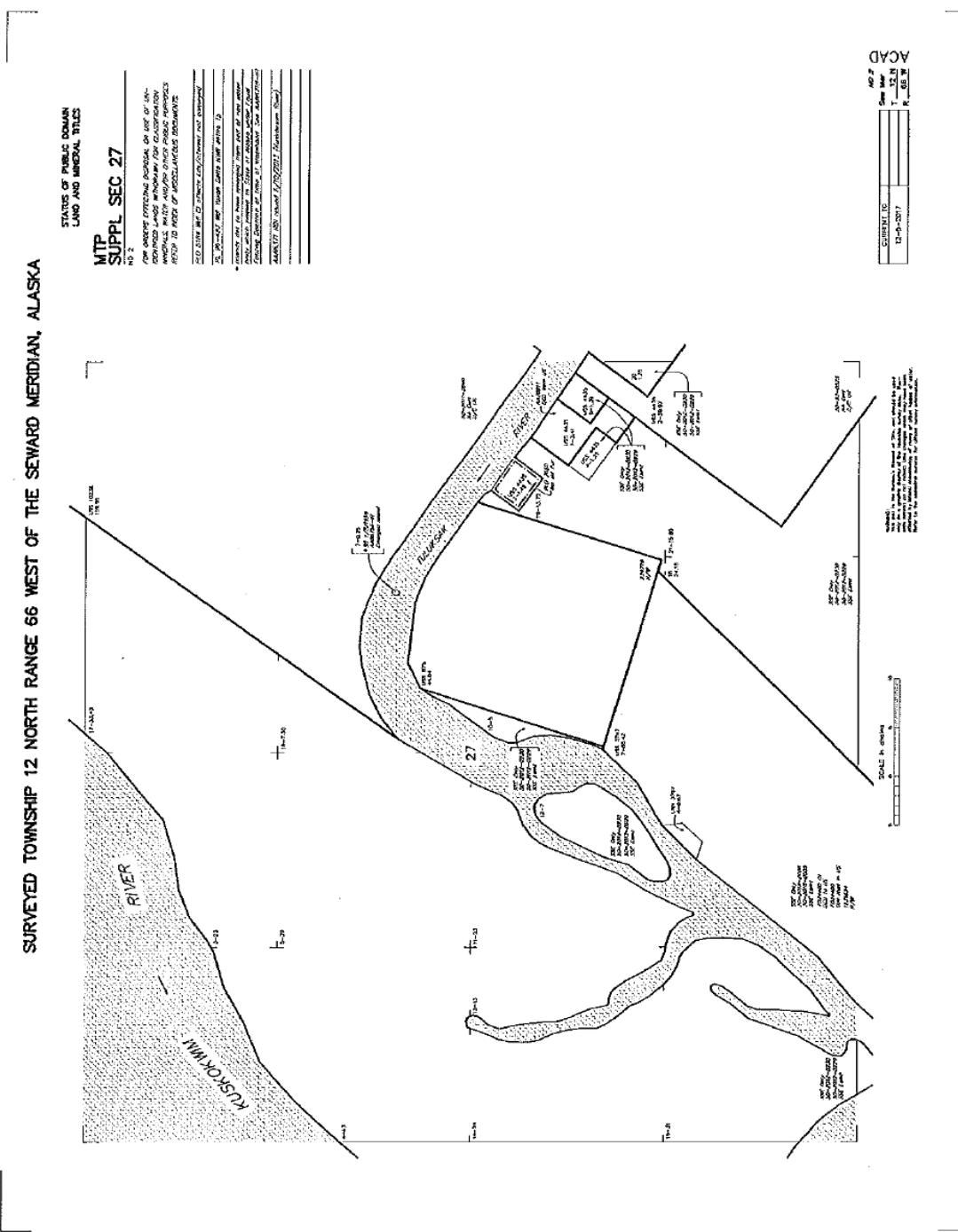
1983 (source 2010 SLR PACP)

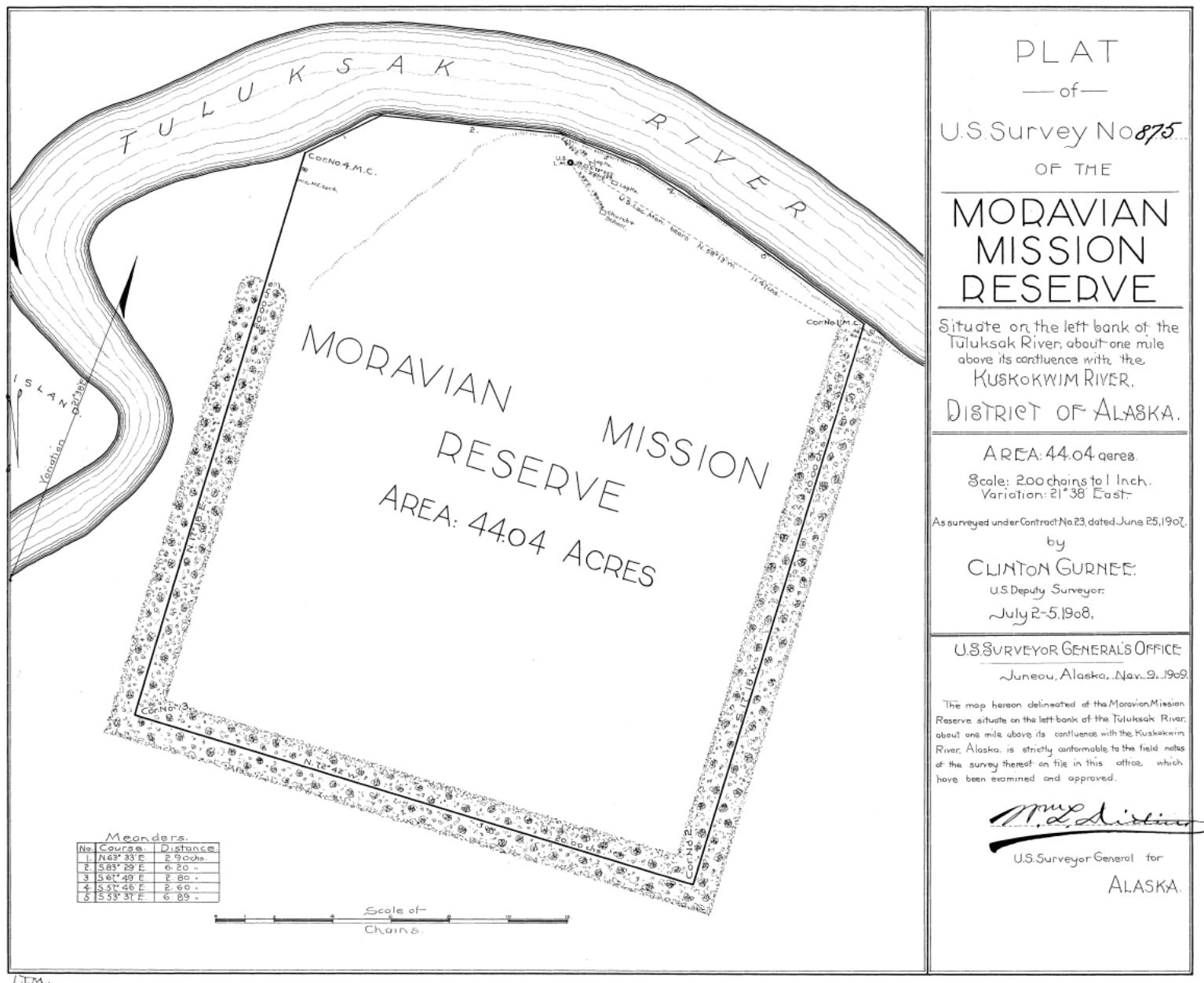


2003 (source 2010 SLR PACP)

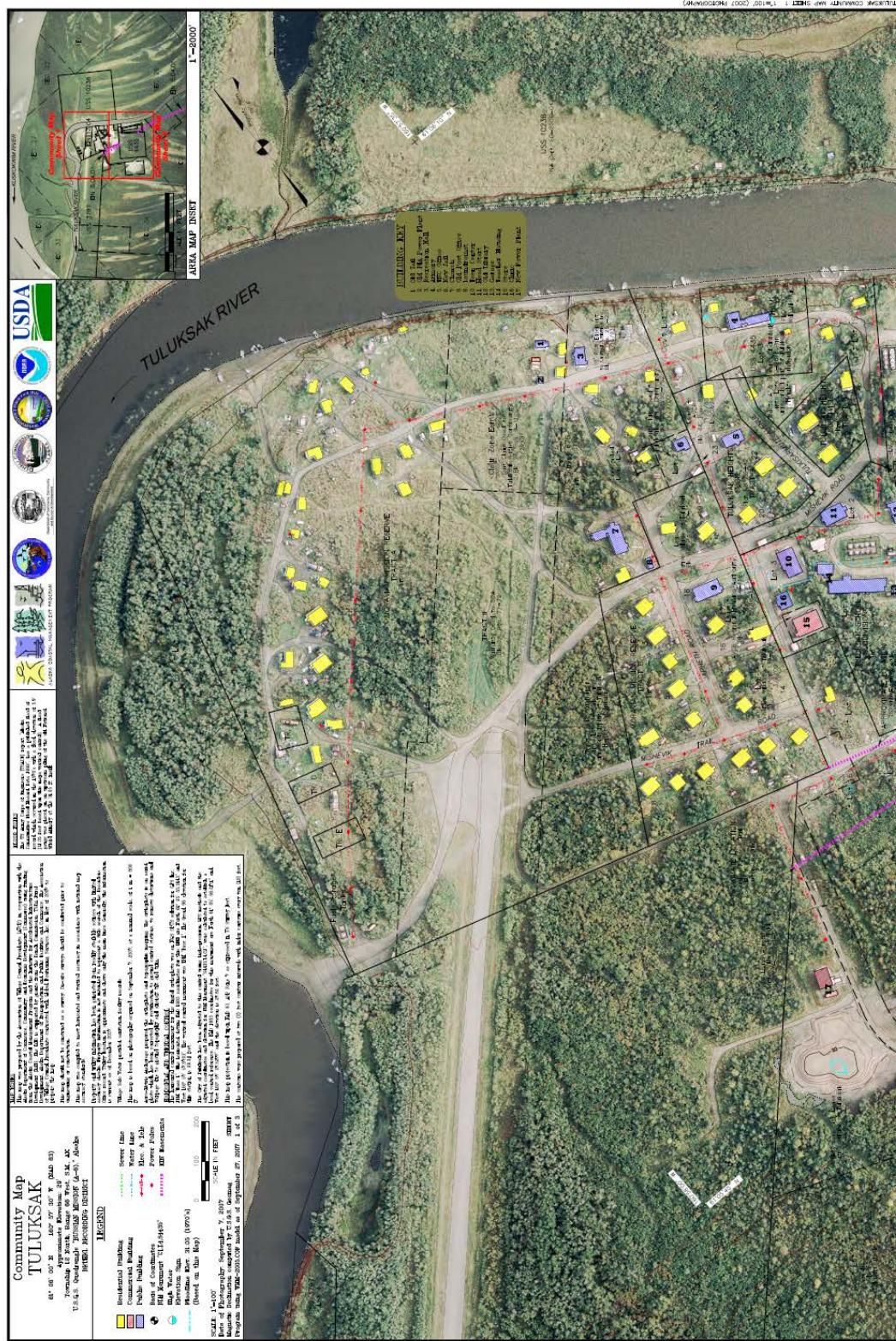


## Appendix C: Master Title Plant 012N66W of the Seward Meridian





Appendix E: Community Map of Tuluksak (source Alaska Department of Commerce, Community and Economic Development).



**Appendix E: Original laboratory reports**



Environment Testing  
TestAmerica

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## ANALYTICAL REPORT

Eurofins TestAmerica, Seattle  
5755 8th Street East  
Tacoma, WA 98424  
Tel: (253)922-2310

Laboratory Job ID: 580-88695-1

Client Project/Site: Tuluksak

For:

Alaska Department of Env. Conservation  
Post Office Box 1542  
Haines, Alaska 99827

Attn: Anne Marie Palmieri

Kristine D. Allen

Authorized for release by:

9/30/2019 5:25:13 PM

Kristine Allen, Manager of Project Management  
(253)248-4970

[kristine.allen@testamericainc.com](mailto:kristine.allen@testamericainc.com)

Designee for

Elaine Walker, Project Manager II  
(253)248-4972  
[elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1

Laboratory: Eurofins TestAmerica, Seattle

### Narrative

#### Job Narrative 580-88695-1

### Receipt

Twenty-eight samples were received on 8/26/2019 12:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.8° C.

### Receipt Exceptions

The container labels for metals have the incorrect metals method on all containers. The nitric poly has Diss Metals however this is the container for Total Metals/Hardness. The Laboratory will use the correct container for the analysis needed. However, there is not an unpreserved container provided for Diss metals for sample TS-16-W (580-88695-21). The single container provided was a nitric preserved therefore only Total Metals/Hardness can be run on this. This sample was logged for Total metals/Hardness and confirmed by the client.

The sample time for TP-01-SO(580-88695-2) was not listed on the COC. The sample time of 1127am was taken from the container label and confirmed by the client.

Only 1 container was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20) for 8270DSIM PAH analysis.

Only 1 Voa vial was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20) for 8260C-BTEX analysis.

Many of the container labels had sample times that did not match the COC. All samples were logged in using the COC times and confirmed by the client.

An additional container was not provided for hardness although this container was provided in the bottle order. This may cause issues with sample volume needed for all analysis.

The field sampler was not provided on the COC.

### GC/MS VOA

Method(s) 624, 8260C: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch analytical batch 580-309932 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and Ethylbenzene. The individual recoveries of both the LCS and LCSD met the acceptance criteria.

Method(s) 8260C: The method blank for preparation batch 580-309944 and analytical batch 580-310039 contained Acetone above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-309944 and analytical batch 580-310039 recovered outside control limits for 4-Methyl-2-pentanone. This analytes was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-310228 recovered outside acceptance criteria, low biased, for Dichlorodifluoromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 580-310228 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: TP-04-SO (580-88695-1), TP-01-SO (580-88695-2), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7), TP-08-SO (580-88695-8) and Trip Blank (580-88695-9).

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-310228 was outside criteria for the following analyte(s): 2-Butanone, Trichloroethene and Benzene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1 (Continued)

### Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method(s) 8260C: Surrogate recovery for the following samples were outside control limits: TP-04-SO (580-88695-1), TP-01-SO (580-88695-2), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7), TP-08-SO (580-88695-8) and Trip Blank (580-88695-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C: Reanalysis of the following sample was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis. TS-01-SO (580-88695-11), TS-02-SO (580-88695-12), TS-03-SO (580-88695-13), TS-04-SO (580-88695-14).

Method(s) 8260C: Surrogate recovery for the following sample was outside control limits: TS-07-SO (580-88695-16). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C: Surrogate recovery for the following samples were outside control limits: TP-04-SO (580-88695-1), TP-01-SO (580-88695-2), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7), TP-08-SO (580-88695-8) and Trip Blank (580-88695-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-309985 recovered outside acceptance criteria, low biased, for 2-Hexanone, Benzene, and Bromomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-309985 recovered above the upper control limit for Dibromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-309985/3) and (CCVL 580-309985/6).

Method(s) 8260C SIM: The method blank for preparation batch 580-309975 and analytical batch 580-309985 contained Naphthalene, Chloroform and Hexachlorobutadiene above the method detection limit. This target analyte concentration was less than the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260C SIM: Surrogate recovery for the following samples and QC were outside the upper control limit: TS-01-SO (580-88695-11), TS-02-SO (580-88695-12), (LCSD 580-309975/3-A) and (MB 580-309975/1-A). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C SIM: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 580-309975 and analytical batch 580-309985: 1,1,2-Trichloroethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8260C SIM: The laboratory control sample duplicate (LCSD) for preparation batch 580-309975 and analytical batch 580-309985 recovered outside control limits for the following analytes: 1,1-Dichloroethene, Chloroform, Dibromomethane, Dichlorobromomethane, Trichloroethane, and Vinyl Chloride. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-309985 recovered outside acceptance criteria, low biased, for 2-Hexanone, Benzene, and Bromomethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-309985 recovered above the upper control limit for Dibromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCVIS 580-309985/3) and (CCVL 580-309985/6).

Method(s) 8260C SIM: The method blank for preparation batch 580-310134 and analytical batch 580-310106 contained Chloroform above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260C SIM: The laboratory control sample (LCS) for preparation batch 580-310134 and analytical batch 580-310106 recovered

# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1 (Continued)

### Laboratory: Eurofins TestAmerica, Seattle (Continued)

outside control limits for the following analytes: 1,2-Dichloroethane, Bromoform, and Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-310106 recovered above the upper control limit for Bromoform, Bromomethane, trans-1,3-Dichloropropene, and Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-05-SO (580-88695-15), TS-07-SO (580-88695-16), (CCVIS 580-310106/3), (580-88685-B-2-G), (580-88685-B-2-H MS) and (580-88685-B-2-I MSD).

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-310106 recovered outside acceptance criteria, low biased, for Naphthalene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C SIM: The method blank for preparation batch 580-310305 and analytical batch 580-310347 contained Naphthalene, Chloroform and cis-1,3-Dichloropropene above the method detection limit. This target analyte concentration was less than the reporting limit; therefore, re-extraction and/or re-analysis of samples was not performed

Method(s) 8260C SIM: The laboratory control sample (LCS) for preparation batch 580-310134 and analytical batch 580-310106 recovered outside control limits for the following surrogate: 1,2-Dichloroethane-d4. The analytes associated with this surrogate were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C SIM: The surrogate recovery for the blank associated with preparation batch 580-310134 and analytical batch 580-310106 was outside the upper control limits.

Method(s) 8260C SIM: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 580-310305 and analytical batch 580-310347 recovered outside control limits for the following analytes: 1,1-Dichloroethene, Benzene, Naphthalene, Tetrachloroethene, and Trichloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260C SIM: The continuing calibration verification (CCV) associated with batch 580-310347 recovered outside acceptance criteria, low biased, for 1,1,2-Tetrachloroethane, 1,1-Dichloroethene, 1,4-Dichlorobenzene, Benzene, Bromomethane, Chloroform, Hexachlorobutadiene, Tetrachloroethene, and Trichloroethene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8260C SIM: The minimum response factor (RF) criteria for the initial calibration verification (ICV) analyzed in batch 580-311181 was outside criteria for the following analyte: Tetrachloroethene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte is considered estimated.

Method(s) 8260C SIM: The minimum response factor (RF) criteria for the initial calibration verification (ICV) analyzed in batch 580-311181 was outside criteria for the following analyte: Tetrachloroethene. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte is considered estimated.

Method(s) 8260C SIM: Due to QC failures for Hexachlorobutadiene and/or Naphthalene in analytical batch, 580-310347, the samples were re-analyzed outside of holding time. Both sets of data have been reported. TP-04-SO (580-88695-1), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7), TP-08-SO (580-88695-8) and Trip Blank (580-88695-9)

Method(s) 8260C SIM: Surrogate recovery for the following samples were outside control limits: TP-06-SO (580-88695-6) and TP-08-SO (580-88695-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C SIM: Surrogate recovery for the following samples were outside the upper control limit: TS-01-SO (580-88695-11), TS-02-SO (580-88695-12). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8260C SIM: Surrogate recovery for the following samples were outside the upper control limit: TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-07-SO (580-88695-16)). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1 (Continued)

### Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method(s) 8260C SIM: The following samples were analyzed outside of analytical holding time due to purge and trap being down to fix a leak: TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-05-SO (580-88695-15), TS-07-SO (580-88695-16) and (580-88685-B-2-G).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-310262 recovered above the upper control limit for 2,2'-oxybis[1-chloropropane] and 3-Nitroaniline. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: TS-01-SO (580-88695-11), TS-02-SO (580-88695-12), TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-05-SO (580-88695-15), TS-07-SO (580-88695-16) and (CCVIS 580-310262/3).

Method(s) 8270D: The method blank for preparation batch 580-310035 and analytical batch 580-310262 contained Butyl benzyl phthalate above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 580-310035 and analytical batch 580-310262 recovered outside control limits for the following analyte: Carbazole. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 580-310035 and analytical batch 580-310262 recovered outside control limits for the following analyte(s): Benzyl alcohol. Benzyl alcohol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 580-310147 and analytical batch 580-310468 recovered outside control limits for the following analytes: Carbazole. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: TP-01-SO (580-88695-2), TP-02-SO (580-88695-3), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7) and TP-08-SO (580-88695-8). Elevated reporting limits (RLs) are provided.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-310468 recovered outside acceptance criteria, low biased, for Benzyl alcohol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 580-310468 recovered above the upper control limit for 2-Nitroaniline, Di-n-octyl phthalate, 2,2'-oxybis[1-chloropropane], Chlorophenol, 4,6-Dinitro-2-methylphenol, Bis(2-ethylhexyl) phthalate, Butyl benzyl phthalate and 4-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 580-310468/3).

Method(s) 8270D: Surrogate recovery for the following samples were outside control limits: TP-01-SO (580-88695-2), TP-06-SO (580-88695-6), TP-07-SO (580-88695-7) and TP-08-SO (580-88695-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: TS-05-SO (580-88695-15). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The following sample was diluted due to the nature of the sample matrix: TS-05-SO (580-88695-15). Elevated reporting limits (RLs) are provided.

Method(s) 8270D, 8270D SIM: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-310297 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1 (Continued)

### Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method(s) 8270D SIM: The method blank for preparation batch 580-309543 and analytical batch 580-310259 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed. Samples with detections were re-analyzed outside of holding time.

Method(s) 8270D SIM: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 580-309543 and analytical batch 580-310259: Benzo[a]pyrene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 580-309543 and analytical batch 580-310259 recovered outside control limits for the following analytes: Benzo[a]pyrene and Acenaphthylene.

Method(s) 8270D SIM: The method blank for preparation batch 580-309543 and analytical batch 580-310259 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D, 8270D SIM: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-310163 was outside criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8270D SIM: Surrogate recovery for the following samples were outside control limits: TP-01-SO (580-88695-2) and TP-07-SO (580-88695-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D SIM: The following samples were diluted due to the nature of the sample matrix: TP-01-SO (580-88695-2) and TP-07-SO (580-88695-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270D SIM: The following samples were diluted due to the nature of the sample matrix: TP-06-SO (580-88695-6), TP-08-SO (580-88695-8) and TS-05-SO (580-88695-15). Elevated reporting limits (RLs) are provided.

Method(s) 8270D SIM: The upper calibration point for 2,6-Dinitrotoluene on this instrument's calibration is 1000 ppb on-column. This is typically not the case but to ensure linearity of the calibration curve, removal of the higher point(s) was necessary. Therefore, any recovery in a LCS/D or MS/D above 100% (since our typical extractions target 1000 ppb on-column for 2,6-Dinitrotoluene will be off-scale high. Since %R met acceptance criteria, the data is in control and reported. .(580-88695-B-11-C MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC Semi VOA

Method(s) 8011: The continuing calibration verification (CCV) associated with 580-310465 recovered high and outside the control limits for Ethylene Dibromide on one column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: TP-02-SO (580-88695-3), TP-06-SO (580-88695-6), TP-08-SO (580-88695-8), TS-01-SO (580-88695-11), TS-02-SO (580-88695-12), TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-05-SO (580-88695-15), TS-07-SO (580-88695-16), (CCV 580-310074/1-A) and (CCV 580-310074/2-A).

Method(s) 8011: The following continuing calibration verification (CCV) standard associated with batch 580-310465 recovered outside acceptance criteria for %D for surrogate 1,2-Dibromopropane on the confirmation column only. Since all the other surrogates were within %D criteria; therefore, the data have been reported.

(CCV 580-310074/1-A) and (CCV 580-310074/2-A)

Method(s) 8011: The continuing calibration verification (CCV) associated with 580-311024 recovered high and outside the control limits for 1,2-Dibromo-3-Chloropropane, 1,2-Dibromopropane and Ethylene Dibromide on one column. Results are confirmed on both columns and reported from the passing column. The following samples are impacted: TP-04-SO (580-88695-1) and (CCV 580-310972/1-A).

Method(s) 8011: The following sample was analyzed outside of analytical holding time due being reprepared outside of holding time:

# Case Narrative

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Job ID: 580-88695-1 (Continued)

### Laboratory: Eurofins TestAmerica, Seattle (Continued)

TP-04-SO (580-88695-1).

Method(s) 8011: Surrogate recovery for the following sample was outside control limits: TP-04-SO (580-88695-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8011: Surrogate recovery for the following samples were outside control limits: TP-02-SO (580-88695-3), TP-06-SO (580-88695-6), TP-08-SO (580-88695-8), TS-02-SO (580-88695-12), TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-05-SO (580-88695-15) and TS-07-SO (580-88695-16). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8011: The following sample was analyzed outside of analytical holding time due to re-prep : TP-04-SO (580-88695-1).

Method(s) 8082A: The method blank for preparation batch 590-23989 and analytical batch 590-24016 contained PCB-1260 above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 8082A: Recovery of the surrogate Tetrachloro-m-xylene was below acceptance limits. The analytes and second surrogate were within acceptance limits and RPD for analytes was within limits as well. All samples had acceptable recoveries for Tetrachloro-m-xylene, therefore data for samples is not affected. Data will be flagged and reported. (LCSD 590-23989/3-A)

Method(s) 8082A: Surrogate recovery for the following samples were outside control limits: TP-06-SO (580-88695-6), TP-07-SO (580-88695-7) and TP-08-SO (580-88695-8). Evidence of matrix interference due to non-target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) AK102 & 103: Detected hydrocarbons in the oil range appear to be due to oil as well as biogenic interference.  
TP-04-SO (580-88695-1), TP-03-SO (580-88695-4), TP-05-SO (580-88695-5), TS-01-SO (580-88695-11), TS-03-SO (580-88695-13), TS-04-SO (580-88695-14), TS-07-SO (580-88695-16), TD-01-SO (580-88695-17) and TD-07-SO (580-88695-18)

Method(s) AK102 & 103: Surrogate recovery for the following samples were outside control limits: TP-02-SO (580-88695-3), TP-06-SO (580-88695-6), TD-01-SO (580-88695-17) and TD-07-SO (580-88695-18). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) AK102 & 103: Surrogate recovery for the following sample was outside control limits: TP-07-SO (580-88695-7). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method(s) 6020A: Lead was detected in the method blank greater than the method detection limit but less than the reporting limit.

Method(s) 6020A: Arsenic was detected in the method blank greater than the method detection limit but less than the reporting limit in batches 310554 and 310658.

Method(s) 7470A: Sample TR-10-W (580-88695-23) had 45 ml available for analysis. Typical volume is 50 ml. Testing continues per SOP.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Definitions/Glossary

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

### Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

## Definitions/Glossary

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**  
Date Collected: 08/22/19 11:47  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-1**  
Matrix: Solid  
Percent Solids: 79.0

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.3	0.41	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,1,2,2-Tetrachloroethane	ND		15	2.0	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,1,2-Trichloroethane	ND		7.3	0.67	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,1-Dichloroethene	ND *		7.3	0.90	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,2-Dibromoethane	ND		7.3	0.66	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,2-Dichloroethane	ND		7.3	0.92	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
1,4-Dichlorobenzene	ND *		7.3	0.47	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Benzene	ND *		7.3	0.61	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Bromodichloromethane	ND		7.3	0.46	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Bromoform	ND		7.3	1.6	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Bromomethane	ND		7.3	1.1	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Chloroform	ND		7.3	0.44	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
cis-1,3-Dichloropropene	ND		7.3	0.54	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Dibromochloromethane	ND		7.3	0.83	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Dibromomethane	ND		7.3	0.86	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
<b>Hexachlorobutadiene</b>	<b>3.3 J</b>		7.3	0.96	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
<b>Naphthalene</b>	<b>3.5 J * B</b>		7.3	1.3	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Tetrachloroethene	ND *		7.3	0.92	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
trans-1,3-Dichloropropene	ND		7.3	0.50	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Trichloroethene	ND *		7.3	0.63	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Vinyl chloride	ND		29	3.5	ug/Kg	✉	09/05/19 14:04	09/05/19 19:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		81 - 121				09/05/19 14:04	09/05/19 19:27	1
4-Bromofluorobenzene (Surr)	98		79 - 120				09/05/19 14:04	09/05/19 19:27	1
Dibromofluoromethane (Surr)	101		78 - 118				09/05/19 14:04	09/05/19 19:27	1
Toluene-d8 (Surr)	100		79 - 119				09/05/19 14:04	09/05/19 19:27	1
Trifluorotoluene (Surr)	83		52 - 152				09/05/19 14:04	09/05/19 19:27	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Hexachlorobutadiene</b>	<b>4.6 J H B</b>		7.3	0.96	ug/Kg	✉	09/14/19 14:31	09/14/19 20:05	1
<b>Naphthalene</b>	<b>11 H B</b>		7.3	1.3	ug/Kg	✉	09/14/19 14:31	09/14/19 20:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		81 - 121				09/14/19 14:31	09/14/19 20:05	1
4-Bromofluorobenzene (Surr)	100		79 - 120				09/14/19 14:31	09/14/19 20:05	1
Dibromofluoromethane (Surr)	96		78 - 118				09/14/19 14:31	09/14/19 20:05	1
Toluene-d8 (Surr)	101		79 - 119				09/14/19 14:31	09/14/19 20:05	1
Trifluorotoluene (Surr)	104		52 - 152				09/14/19 14:31	09/14/19 20:05	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		58	14	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
1,1-Dichloroethane	ND		58	13	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
1,1-Dichloropropene	ND		58	7.7	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
1,2,3-Trichlorobenzene	ND		220	47	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
1,2,3-Trichloropropane	ND		58	17	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
1,2,4-Trichlorobenzene	ND		87	22	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1
<b>1,2,4-Trimethylbenzene</b>	<b>89</b>		58	20	ug/Kg	✉	09/04/19 12:48	09/04/19 20:09	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**  
**Date Collected: 08/22/19 11:47**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-1**  
**Matrix: Solid**  
**Percent Solids: 79.0**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		360	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
1,2-Dichlorobenzene	ND		58	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
1,2-Dichloropropane	ND		29	9.6	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
<b>1,3,5-Trimethylbenzene</b>	<b>39 J</b>		58	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
1,3-Dichlorobenzene	ND		87	19	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
1,3-Dichloropropane	ND		87	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
2,2-Dichloropropane	ND		58	18	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
2-Butanone	ND		870	270	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
2-Chlorotoluene	ND		58	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
4-Chlorotoluene	ND		58	14	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
4-Isopropyltoluene	ND		58	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
4-Methyl-2-pentanone	ND		580	120	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Acetone	ND		1200	250	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Bromobenzene	ND		150	25	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Bromoform	ND		58	9.0	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Carbon disulfide	ND		87	18	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Carbon tetrachloride	ND		29	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Chlorobenzene	ND		58	7.0	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Chloroethane	ND		580	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Chloromethane	ND		150	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
cis-1,2-Dichloroethene	ND		87	18	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Dichlorodifluoromethane	ND		290	67	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Ethylbenzene	ND		58	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Isopropylbenzene	ND		58	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Methyl tert-butyl ether	ND		58	8.7	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Methylene Chloride	ND		360	94	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
<b>m-Xylene &amp; p-Xylene</b>	<b>31 J</b>		290	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
<b>n-Butylbenzene</b>	<b>18 J</b>		220	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
<b>N-Propylbenzene</b>	<b>14 J</b>		58	10	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
o-Xylene	ND		87	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
sec-Butylbenzene	ND		58	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Styrene	ND		58	8.9	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
t-Butylbenzene	ND		58	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Toluene	ND		220	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
trans-1,2-Dichloroethene	ND		87	21	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1
Trichlorofluoromethane	ND		290	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 121		09/04/19 12:48	09/04/19 20:09
4-Bromofluorobenzene (Surr)	98		80 - 120		09/04/19 12:48	09/04/19 20:09
Dibromofluoromethane (Surr)	95		80 - 120		09/04/19 12:48	09/04/19 20:09
Toluene-d8 (Surr)	105		80 - 120		09/04/19 12:48	09/04/19 20:09
Trifluorotoluene (Surr)	73	X	80 - 120		09/04/19 12:48	09/04/19 20:09

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		11	4.6	ug/Kg	⊗	09/04/19 09:12	09/04/19 16:59	1
2,4-Dinitrophenol	ND	F1	170	34	ug/Kg	⊗	09/04/19 09:12	09/04/19 16:59	1
2,4-Dinitrotoluene	ND		22	4.4	ug/Kg	⊗	09/04/19 09:12	09/04/19 16:59	1
2,6-Dinitrotoluene	ND		11	3.5	ug/Kg	⊗	09/04/19 09:12	09/04/19 16:59	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**  
**Date Collected: 08/22/19 11:47**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-1**  
**Matrix: Solid**  
**Percent Solids: 79.0**

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	ND	F2 F1	11	4.9	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
4-Chloroaniline	ND	F2	170	54	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Bis(2-chloroethyl)ether	ND		11	3.4	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Hexachlorobenzene	ND		11	4.1	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Hexachlorobutadiene	ND		11	2.2	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Hexachlorocyclopentadiene	ND	F1	11	3.9	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Hexachloroethane	ND		11	3.4	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Nitrobenzene	ND		11	3.5	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
N-Nitrosodimethylamine	ND		22	5.1	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
N-Nitrosodi-n-propylamine	ND		11	4.1	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
Pentachlorophenol	ND		340	100	ug/Kg	✉	09/04/19 09:12	09/04/19 16:59	1
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol		76		28 - 143			09/04/19 09:12	09/04/19 16:59	1
2-Fluorobiphenyl		92		42 - 140			09/04/19 09:12	09/04/19 16:59	1
Nitrobenzene-d5		86		38 - 141			09/04/19 09:12	09/04/19 16:59	1
Terphenyl-d14		99		68 - 138			09/04/19 09:12	09/04/19 16:59	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		56	6.7	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
1,2-Dichlorobenzene	ND		56	13	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
1,3-Dichlorobenzene	ND		56	5.4	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
1,4-Dichlorobenzene	ND		56	9.3	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
1-Methylnaphthalene	ND		34	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2,4,5-Trichlorophenol	ND		220	50	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2,4-Dichlorophenol	ND		110	17	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2,4-Dimethylphenol	ND		110	17	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Chloronaphthalene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Chlorophenol	ND		220	15	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Methylnaphthalene	ND		56	9.8	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Methylphenol	ND		170	11	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Nitroaniline	ND		110	17	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
2-Nitrophenol	ND		220	23	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
3 & 4 Methylphenol	ND		220	17	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
3-Nitroaniline	ND		220	45	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4,6-Dinitro-2-methylphenol	ND		1100	110	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4-Bromophenyl phenyl ether	ND		220	10	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4-Chloro-3-methylphenol	ND		170	37	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4-Chlorophenyl phenyl ether	ND		220	7.0	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4-Nitroaniline	ND	F2	170	56	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
4-Nitrophenol	ND		1700	410	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Acenaphthene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Acenaphthylene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Anthracene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzo[a]anthracene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzo[a]pyrene	ND		67	15	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzo[b]fluoranthene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzo[g,h,i]perylene	ND		67	10	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzo[k]fluoranthene	ND		67	16	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**  
Date Collected: 08/22/19 11:47  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-1**  
Matrix: Solid  
Percent Solids: 79.0

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	ND	F1	2200	650	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Benzyl alcohol	ND		560	86	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Bis(2-chloroethoxy)methane	ND		220	20	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Bis(2-ethylhexyl) phthalate	ND		670	79	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
bis(chloroisopropyl) ether	ND		220	16	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
<b>Butyl benzyl phthalate</b>	<b>60</b>	<b>J</b>	220	57	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Carbazole	ND	F1 *	170	9.2	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Chrysene	ND		67	15	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Dibenz(a,h)anthracene	ND		56	13	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Dibenzofuran	ND		170	6.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Diethyl phthalate	ND		1700	85	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Dimethyl phthalate	ND		170	15	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Di-n-butyl phthalate	ND		560	64	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Di-n-octyl phthalate	ND		170	64	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
<b>Fluoranthene</b>	<b>7.5</b>	<b>J</b>	28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Fluorene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Indeno[1,2,3-cd]pyrene	ND		45	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Isophorone	ND		170	8.3	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Naphthalene	ND		28	5.6	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
N-Nitrosodiphenylamine	ND		67	8.9	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Phenanthrene	ND		67	13	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Phenol	ND		170	26	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1
Pyrene	ND		67	7.2	ug/Kg	✉	09/04/19 09:12	09/06/19 19:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	84		52 - 125	09/04/19 09:12	09/06/19 19:29	1
2-Fluorobiphenyl	88		57 - 120	09/04/19 09:12	09/06/19 19:29	1
2-Fluorophenol (Surr)	90		60 - 125	09/04/19 09:12	09/06/19 19:29	1
Nitrobenzene-d5 (Surr)	96		62 - 120	09/04/19 09:12	09/06/19 19:29	1
Phenol-d5 (Surr)	87		59 - 120	09/04/19 09:12	09/06/19 19:29	1
Terphenyl-d14 (Surr)	88		58 - 120	09/04/19 09:12	09/06/19 19:29	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND	H	0.38	0.083	ug/Kg	✉	09/12/19 10:55	09/12/19 18:39	1
Ethylene Dibromide	ND	H	0.063	0.015	ug/Kg	✉	09/12/19 10:55	09/12/19 18:39	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dibromo propane	50	X	60 - 140	09/12/19 10:55	09/12/19 18:39	1			

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (DRO) (C10-C25)</b>	<b>14</b>		12	4.1	mg/Kg	✉	09/03/19 11:22	09/03/19 20:26	1
<b>Residual Range Organics (RRO) (C25-C36)</b>	<b>110</b>	<b>F1</b>	24	6.1	mg/Kg	✉	09/03/19 11:22	09/03/19 20:26	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>o</i> -Terphenyl	79		50 - 150	09/03/19 11:22	09/03/19 20:26	1			
<i>n</i> -Triaccontane-d62	87		50 - 150	09/03/19 11:22	09/03/19 20:26	1			

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**

Date Collected: 08/22/19 11:47

Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-1**

Matrix: Solid

Percent Solids: 79.0

**Method: 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12	B	0.23	0.047	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Barium	130	F1	0.47	0.11	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Cadmium	0.36		0.19	0.036	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Chromium	22	B	0.23	0.029	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Lead	7.5		0.23	0.022	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Selenium	0.76	B	0.51	0.13	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5
Silver	0.11		0.093	0.0093	mg/Kg	⌚	09/06/19 10:17	09/10/19 17:33	5

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.030	0.0091	mg/Kg	⌚	09/09/19 10:05	09/09/19 15:01	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.0		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	21.0		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-01-SO**  
**Date Collected: 08/22/19 11:27**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-2**  
**Matrix: Solid**  
**Percent Solids: 71.3**

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		8.1	0.45	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,1,2,2-Tetrachloroethane	ND		16	2.2	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,1,2-Trichloroethane	ND		8.1	0.75	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,1-Dichloroethene	ND *		8.1	1.0	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,2-Dibromoethane	ND		8.1	0.73	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,2-Dichloroethane	ND		8.1	1.0	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
1,4-Dichlorobenzene	ND *		8.1	0.52	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
<b>Benzene</b>	<b>0.86 J*</b>		8.1	0.68	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Bromodichloromethane	ND		8.1	0.51	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Bromoform	ND		8.1	1.8	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Bromomethane	ND		8.1	1.2	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Chloroform	ND		8.1	0.49	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
cis-1,3-Dichloropropene	ND		8.1	0.60	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Dibromochloromethane	ND		8.1	0.92	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Dibromomethane	ND		8.1	0.96	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Hexachlorobutadiene	ND		8.1	1.1	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Naphthalene	ND *		8.1	1.5	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Tetrachloroethene	ND *		8.1	1.0	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
trans-1,3-Dichloropropene	ND		8.1	0.55	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Trichloroethene	ND *		8.1	0.70	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
Vinyl chloride	ND		32	3.8	ug/Kg	⊗	09/05/19 14:04	09/05/19 19:53	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	109		81 - 121				09/05/19 14:04	09/05/19 19:53	1
4-Bromofluorobenzene (Surr)	94		79 - 120				09/05/19 14:04	09/05/19 19:53	1
Dibromofluoromethane (Surr)	103		78 - 118				09/05/19 14:04	09/05/19 19:53	1
Toluene-d8 (Surr)	99		79 - 119				09/05/19 14:04	09/05/19 19:53	1
Trifluorotoluene (Surr)	73		52 - 152				09/05/19 14:04	09/05/19 19:53	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		65	16	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,1-Dichloroethane	ND		65	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,1-Dichloropropene	ND		65	8.6	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2,3-Trichlorobenzene	ND		240	52	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2,3-Trichloropropane	ND		65	19	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2,4-Trichlorobenzene	ND		97	25	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2,4-Trimethylbenzene	ND		65	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2-Dibromo-3-Chloropropane	ND		400	25	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2-Dichlorobenzene	ND		65	14	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,2-Dichloropropane	ND		32	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,3,5-Trimethylbenzene	ND		65	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,3-Dichlorobenzene	ND		97	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
1,3-Dichloropropane	ND		97	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
2,2-Dichloropropane	ND		65	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
2-Butanone	ND		970	300	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
2-Chlorotoluene	ND		65	14	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
4-Chlorotoluene	ND		65	16	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
4-Isopropyltoluene	ND		65	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1
4-Methyl-2-pentanone	ND		650	130	ug/Kg	⊗	09/04/19 12:48	09/04/19 20:35	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-01-SO**  
**Date Collected: 08/22/19 11:27**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-2**  
**Matrix: Solid**  
**Percent Solids: 71.3**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	280	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Bromobenzene	ND		160	28	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Bromoform	ND		65	10	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Carbon disulfide	ND		97	20	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Carbon tetrachloride	ND		32	13	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Chlorobenzene	ND		65	7.8	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Chloroethane	ND		650	16	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Chloromethane	ND		160	16	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
cis-1,2-Dichloroethene	ND		97	20	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Dichlorodifluoromethane	ND		320	74	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Ethylbenzene	ND		65	15	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Isopropylbenzene	ND		65	14	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Methyl tert-butyl ether	ND		65	9.7	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Methylene Chloride	ND		400	100	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
<b>m-Xylene &amp; p-Xylene</b>	<b>34 J</b>		320	24	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
n-Butylbenzene	ND		240	13	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
N-Propylbenzene	ND		65	11	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
o-Xylene	ND		97	22	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
sec-Butylbenzene	ND		65	14	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Styrene	ND		65	9.9	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
t-Butylbenzene	ND		65	12	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Toluene	ND		240	22	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
trans-1,2-Dichloroethene	ND		97	24	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
Trichlorofluoromethane	ND		320	18	ug/Kg	✉	09/04/19 12:48	09/04/19 20:35	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	97			80 - 121			09/04/19 12:48	09/04/19 20:35	1
4-Bromofluorobenzene (Surr)	114			80 - 120			09/04/19 12:48	09/04/19 20:35	1
Dibromofluoromethane (Surr)	100			80 - 120			09/04/19 12:48	09/04/19 20:35	1
Toluene-d8 (Surr)	105			80 - 120			09/04/19 12:48	09/04/19 20:35	1
Trifluorotoluene (Surr)	62 X			80 - 120			09/04/19 12:48	09/04/19 20:35	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		270	110	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
2,4-Dinitrophenol	ND		4000	800	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
2,4-Dinitrotoluene	ND		530	110	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
2,6-Dinitrotoluene	ND		270	83	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
3,3'-Dichlorobenzidine	ND		270	120	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
4-Chloroaniline	ND		4000	1300	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Bis(2-chloroethyl)ether	ND		270	82	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Hexachlorobenzene	ND		270	98	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Hexachlorobutadiene	ND		270	52	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Hexachlorocyclopentadiene	ND		270	93	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Hexachloroethane	ND		270	81	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Nitrobenzene	ND		270	83	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
N-Nitrosodimethylamine	ND		530	120	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
N-Nitrosodi-n-propylamine	ND		270	98	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20
Pentachlorophenol	ND		8000	2400	ug/Kg	✉	09/04/19 09:12	09/05/19 13:36	20

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-01-SO**

Date Collected: 08/22/19 11:27

Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-2**

Matrix: Solid

Percent Solids: 71.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	117		28 - 143	09/04/19 09:12	09/05/19 13:36	20
2-Fluorobiphenyl	85		42 - 140	09/04/19 09:12	09/05/19 13:36	20
Nitrobenzene-d5	442 X		38 - 141	09/04/19 09:12	09/05/19 13:36	20
Terphenyl-d14	88		68 - 138	09/04/19 09:12	09/05/19 13:36	20

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1700	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
1,2-Dichlorobenzene	ND		1700	400	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
1,3-Dichlorobenzene	ND		1700	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
1,4-Dichlorobenzene	ND		1700	280	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
1-Methylnaphthalene	ND		1000	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2,4,5-Trichlorophenol	ND		6700	1500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2,4-Dichlorophenol	ND		3300	500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2,4-Dimethylphenol	ND		3300	500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Chloronaphthalene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Chlorophenol	ND		6700	430	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Methylnaphthalene	ND		1700	290	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Methylphenol	ND		5000	330	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Nitroaniline	ND		3300	500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
2-Nitrophenol	ND		6700	700	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
3 & 4 Methylphenol	ND		6700	500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
3-Nitroaniline	ND		6700	1300	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4,6-Dinitro-2-methylphenol	ND		33000	3300	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4-Bromophenyl phenyl ether	ND		6700	300	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4-Chloro-3-methylphenol	ND		5000	1100	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4-Chlorophenyl phenyl ether	ND		6700	210	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4-Nitroaniline	ND		5000	1700	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
4-Nitrophenol	ND		50000	12000	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Acenaphthene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Acenaphthylene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Anthracene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzo[a]anthracene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzo[a]pyrene	ND		2000	430	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzo[b]fluoranthene	ND		840	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzo[g,h,i]perylene	ND		2000	300	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzo[k]fluoranthene	ND		2000	470	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzoic acid	ND		67000	19000	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Benzyl alcohol	ND		17000	2600	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Bis(2-chloroethoxy)methane	ND		6700	600	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Bis(2-ethylhexyl) phthalate	ND		20000	2400	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
bis(chloroisopropyl) ether	ND		6700	470	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Butyl benzyl phthalate	ND		6700	1700	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Carbazole	ND *		5000	270	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Chrysene	ND		2000	430	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Dibenz(a,h)anthracene	ND		1700	400	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Dibenzofuran	ND		5000	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Diethyl phthalate	ND		50000	2500	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Dimethyl phthalate	ND		5000	430	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25
Di-n-butyl phthalate	ND		17000	1900	ug/Kg	⊗	09/04/19 09:12	09/06/19 20:40	25

Eurofins TestAmerica, Seattle

**Client Sample ID: TP-01-SO**  
 Date Collected: 08/22/19 11:27  
 Date Received: 08/26/19 12:25

## Client Sample Results

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)						
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac
Di-n-octyl phthalate	ND		5000	1900	ug/Kg	09/04/19 09:12
Fluoranthene	ND		840	170	ug/Kg	09/04/19 09:12
Fluorene	ND		840	170	ug/Kg	09/04/19 09:12
Indeno[1,2,3-cd]pyrene	ND		1300	170	ug/Kg	09/04/19 09:12
Isophorone	ND		5000	250	ug/Kg	09/04/19 09:12
Naphthalene	ND		840	170	ug/Kg	09/04/19 09:12
N-Nitrosodiphenylamine	ND		2000	270	ug/Kg	09/04/19 09:12
Phenanthrene	ND		2000	400	ug/Kg	09/04/19 09:12
Phenol	ND		5000	770	ug/Kg	09/04/19 09:12
Pyrene	ND		2000	210	ug/Kg	09/04/19 09:12
<i>Surrogate</i>		%Recovery	Qualifier	<i>Limits</i>		
2,4,6-Tribromophenol (Sur)	218	X		52 - 125		
2-Fluorobiphenyl	58			57 - 120		
2-Fluorophenol (Sur)	85			60 - 125		
Nitrobenzene-d5 (Sur)	596	X		62 - 120		
Phenol-d5 (Sur)	22	X		59 - 120		
Terphenyl-d14 (Sur)	92			58 - 120		

### Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	14000		140	47	mg/Kg	09/03/19 11:22
Residual Range Organics (RRO) (C25-C36)	270	J	280	70	mg/Kg	09/03/19 11:22
<i>Surrogate</i>		%Recovery	Qualifier	<i>Limits</i>		
o-Terphenyl	82			50 - 150		
n-Triaccontane-d62	87			50 - 150		

### Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac
Arsenic	4.4	B	0.27	0.033	mg/Kg	09/06/19 10:17
Barium	170		0.53	0.12	mg/Kg	09/06/19 10:17
Cadmium	0.42		0.21	0.041	mg/Kg	09/06/19 10:17
Chromium	28	B	0.27	0.033	mg/Kg	09/06/19 10:17
Lead	9.7		0.27	0.026	mg/Kg	09/06/19 10:17
Selenium	1.0	B	0.58	0.15	mg/Kg	09/06/19 10:17
Silver	0.18		0.11	0.011	mg/Kg	09/06/19 10:17
<i>General Chemistry</i>		Result	Qualifier	RL	MDL	Dil Fac
Percent Solids	71.3			0.1	0.1 %	08/30/19 14:26
Percent Moisture	28.7			0.1	0.1 %	08/30/19 14:26

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-02-SO**  
**Date Collected: 08/22/19 11:40**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-3**  
**Matrix: Solid**  
**Percent Solids: 70.9**

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		13	5.5	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
2,4-Dinitrophenol	ND		200	40	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
2,4-Dinitrotoluene	ND		27	5.3	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
2,6-Dinitrotoluene	ND		13	4.2	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
3,3'-Dichlorobenzidine	ND		13	5.8	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
4-Chloroaniline	ND		200	64	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Bis(2-chloroethyl)ether	ND		13	4.1	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Hexachlorobenzene	ND		13	4.9	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Hexachlorobutadiene	ND		13	2.6	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Hexachlorocyclopentadiene	ND		13	4.7	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Hexachloroethane	ND		13	4.0	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
Nitrobenzene	ND		13	4.2	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
N-Nitrosodimethylamine	ND		27	6.2	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
N-Nitrosodi-n-propylamine	ND		13	4.9	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
<b>Pentachlorophenol</b>	<b>130 J</b>		400	120	ug/Kg	⊗	09/04/19 09:12	09/04/19 18:31	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	85		28 - 143				09/04/19 09:12	09/04/19 18:31	1
2-Fluorobiphenyl	64		42 - 140				09/04/19 09:12	09/04/19 18:31	1
Nitrobenzene-d5	94		38 - 141				09/04/19 09:12	09/04/19 18:31	1
Terphenyl-d14	107		68 - 138				09/04/19 09:12	09/04/19 18:31	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		670	80	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
1,2-Dichlorobenzene	ND		670	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
1,3-Dichlorobenzene	ND		670	64	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
1,4-Dichlorobenzene	ND		670	110	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
1-Methylnaphthalene	ND		400	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2,4,5-Trichlorophenol	ND		2700	600	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2,4-Dichlorophenol	ND		1300	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2,4-Dimethylphenol	ND		1300	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Chloronaphthalene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Chlorophenol	ND		2700	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Methylnaphthalene	ND		670	120	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Methylphenol	ND		2000	130	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Nitroaniline	ND		1300	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
2-Nitrophenol	ND		2700	280	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
3 & 4 Methylphenol	ND		2700	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
3-Nitroaniline	ND		2700	540	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4,6-Dinitro-2-methylphenol	ND		13000	1300	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4-Bromophenyl phenyl ether	ND		2700	120	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4-Chloro-3-methylphenol	ND		2000	440	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4-Chlorophenyl phenyl ether	ND		2700	84	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4-Nitroaniline	ND		2000	670	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
4-Nitrophenol	ND		20000	4900	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Acenaphthene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Acenaphthylene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Anthracene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzo[a]anthracene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-02-SO**  
Date Collected: 08/22/19 11:40  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-3**  
Matrix: Solid  
Percent Solids: 70.9

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		800	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzo[b]fluoranthene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzo[g,h,i]perylene	ND		800	120	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzo[k]fluoranthene	ND		800	190	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzoic acid	ND		27000	7800	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Benzyl alcohol	ND		6700	1000	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Bis(2-chloroethoxy)methane	ND		2700	240	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
<b>Bis(2-ethylhexyl) phthalate</b>	<b>4900</b>	<b>J</b>		950	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
bis(chloroisopropyl) ether	ND		2700	190	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Butyl benzyl phthalate	ND		2700	680	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Carbazole	ND *		2000	110	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Chrysene	ND		800	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Dibenz(a,h)anthracene	ND		670	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Dibenzofuran	ND		2000	79	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Diethyl phthalate	ND		20000	1000	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Dimethyl phthalate	ND		2000	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Di-n-butyl phthalate	ND		6700	760	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Di-n-octyl phthalate	ND		2000	760	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Fluoranthene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Fluorene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Indeno[1,2,3-cd]pyrene	ND		540	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Isophorone	ND		2000	99	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Naphthalene	ND		330	67	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
N-Nitrosodiphenylamine	ND		800	110	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Phenanthrene	ND		800	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Phenol	ND		2000	310	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
Pyrene	ND		800	86	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:04	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol (Surr)	122			52 - 125			09/04/19 09:12	09/06/19 21:04	10
2-Fluorobiphenyl	98			57 - 120			09/04/19 09:12	09/06/19 21:04	10
2-Fluorophenol (Surr)	86			60 - 125			09/04/19 09:12	09/06/19 21:04	10
Nitrobenzene-d5 (Surr)	119			62 - 120			09/04/19 09:12	09/06/19 21:04	10
Phenol-d5 (Surr)	90			59 - 120			09/04/19 09:12	09/06/19 21:04	10
Terphenyl-d14 (Surr)	114			58 - 120			09/04/19 09:12	09/06/19 21:04	10

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.38	0.085	ug/Kg	⊗	09/03/19 16:43	09/06/19 20:16	1
Ethylene Dibromide	ND		0.064	0.015	ug/Kg	⊗	09/03/19 16:43	09/06/19 20:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dibromopropane	12	X		60 - 140			09/03/19 16:43	09/06/19 20:16	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	6200		140	47	mg/Kg	⊗	09/03/19 11:22	09/03/19 21:44	10
Residual Range Organics (RRO) (C25-C36)	38000		280	69	mg/Kg	⊗	09/03/19 11:22	09/03/19 21:44	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-02-SO**

Date Collected: 08/22/19 11:40

Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-3**

Matrix: Solid

Percent Solids: 70.9

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	84		50 - 150	09/03/19 11:22	09/03/19 21:44	10
<i>n</i> -Triaccontane-d62	238	X	50 - 150	09/03/19 11:22	09/03/19 21:44	10

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20	B	0.26	0.051	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Barium	180		0.51	0.12	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Cadmium	0.59		0.20	0.039	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Chromium	26	B	0.26	0.032	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Lead	15		0.26	0.025	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Selenium	1.1	B	0.56	0.15	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5
Silver	0.15		0.10	0.010	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:25	5

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.9		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	29.1		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-03-SO**

Date Collected: 08/22/19 11:43

Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-4**

Matrix: Solid

Percent Solids: 74.4

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		13	5.4	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
2,4-Dinitrophenol	ND		200	39	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
2,4-Dinitrotoluene	ND		26	5.1	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
2,6-Dinitrotoluene	ND		13	4.0	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
3,3'-Dichlorobenzidine	ND		13	5.7	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
4-Chloroaniline	ND		200	63	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Bis(2-chloroethyl)ether	ND		13	4.0	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Hexachlorobenzene	ND		13	4.8	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Hexachlorobutadiene	ND		13	2.5	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Hexachlorocyclopentadiene	ND		13	4.5	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Hexachloroethane	ND		13	3.9	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Nitrobenzene	ND		13	4.0	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
N-Nitrosodimethylamine	ND		26	6.0	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
N-Nitrosodi-n-propylamine	ND		13	4.8	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
Pentachlorophenol	ND		390	120	ug/Kg	✉	09/04/19 09:12	09/04/19 18:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	82		28 - 143				09/04/19 09:12	09/04/19 18:54	1
2-Fluorobiphenyl	98		42 - 140				09/04/19 09:12	09/04/19 18:54	1
Nitrobenzene-d5	94		38 - 141				09/04/19 09:12	09/04/19 18:54	1
Terphenyl-d14	110		68 - 138				09/04/19 09:12	09/04/19 18:54	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		65	7.8	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
1,2-Dichlorobenzene	ND		65	16	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
1,3-Dichlorobenzene	ND		65	6.2	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
1,4-Dichlorobenzene	ND		65	11	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
1-Methylnaphthalene	ND		39	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2,4,5-Trichlorophenol	ND		260	59	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2,4-Dichlorophenol	ND		130	20	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2,4-Dimethylphenol	ND		130	20	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Chloronaphthalene	ND		33	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Chlorophenol	ND		260	17	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Methylnaphthalene	ND		65	11	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Methylphenol	ND		200	13	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Nitroaniline	ND		130	20	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
2-Nitrophenol	ND		260	27	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
3 & 4 Methylphenol	ND		260	20	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
3-Nitroaniline	ND		260	52	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4,6-Dinitro-2-methylphenol	ND		1300	130	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4-Bromophenyl phenyl ether	ND		260	12	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4-Chloro-3-methylphenol	ND		200	43	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4-Chlorophenyl phenyl ether	ND		260	8.2	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4-Nitroaniline	ND		200	65	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
4-Nitrophenol	ND		2000	480	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
Acenaphthene	ND		33	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
Acenaphthylene	ND		33	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
Anthracene	ND		33	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1
Benzo[a]anthracene	ND		33	6.5	ug/Kg	✉	09/04/19 09:12	09/06/19 21:28	1

Eurofins TestAmerica, Seattle

**Client Sample ID: TP-03-SO**  
**Date Collected: 08/22/19 11:43**  
**Date Received: 08/26/19 12:25**

**Client Sample Results**

**Lab Sample ID: 580-88695-4**  
**Matrix: Solid**  
**Percent Solids: 74.4**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benz[ <i>a</i> ]pyrene	ND		78	17	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Benzol[b]fluoranthene	ND		33	6.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Benzol[g,h,i]perylene	ND		78	12	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Benzol[k]fluoranthene	ND		78	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Benzoic acid	ND		2600	750	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Benzyl alcohol	ND		650	100	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Bis(2-chloroethoxy)methane	ND		260	23	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>110</b>	<b>J</b>	<b>780</b>	<b>92</b>	<b>ug/Kg</b>	<b>⊗</b>	<b>09/04/19 09:12</b>	<b>09/06/19 21:28</b>	<b>1</b>
bis(chloroisopropyl) ether	ND		260	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
<b>Butyl benzyl phthalate</b>	<b>95</b>	<b>J</b>	<b>260</b>	<b>66</b>	<b>ug/Kg</b>	<b>⊗</b>	<b>09/04/19 09:12</b>	<b>09/06/19 21:28</b>	<b>1</b>
Carbazole	ND	*	200	11	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Chrysene	ND		78	17	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Dibenz(a,h)anthracene	ND		65	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Dibenzofuran	ND		200	7.7	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Diethyl phthalate	ND		2000	99	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Dimethyl phthalate	ND		200	17	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Di-n-butyl phthalate	ND		650	74	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Di-n-octyl phthalate	ND		200	74	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Fluoranthene	ND		33	6.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Fluorene	ND		33	6.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Indeno[1,2,3-cd]pyrene	ND		52	6.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Isophorone	ND		200	9.6	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Naphthalene	ND		33	6.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
N-Nitrosodiphenylamine	ND		78	10	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Phenanthrene	ND		78	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Phenol	ND		200	30	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1
Pyrene	ND		78	8.3	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:28	1

**Surrogate** %Recovery Qualifier Limits Prepared Analyzed Dil Fac

2,4,6-Tribromophenol (Surf)	86		52 - 125	09/04/19 09:12	09/06/19 21:28	1
2-Fluorobiphenyl	90		57 - 120	09/04/19 09:12	09/06/19 21:28	1
2-Fluorophenol (Surf)	92		60 - 125	09/04/19 09:12	09/06/19 21:28	1
Nitrobenzene-d5 (Surf)	107		62 - 120	09/04/19 09:12	09/06/19 21:28	1
Phenol-d5 (Surf)	88		59 - 120	09/04/19 09:12	09/06/19 21:28	1
Terphenyl-d14 (Surf)	91		58 - 120	09/04/19 09:12	09/06/19 21:28	1

**Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (DRO)</b>	<b>39</b>		<b>13</b>	<b>4.5</b>	<b>mg/Kg</b>	<b>⊗</b>	<b>09/03/19 11:22</b>	<b>09/03/19 22:23</b>	<b>1</b>
(C10-C25)									
<b>Residual Range Organics (RRO)</b>	<b>370</b>		<b>26</b>	<b>6.6</b>	<b>mg/Kg</b>	<b>⊗</b>	<b>09/03/19 11:22</b>	<b>09/03/19 22:23</b>	<b>1</b>
(C25-C36)									
<b>Surrogate</b>	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>o</i> -Terphenyl	83		50 - 150	09/03/19 11:22	09/03/19 22:23	1			
<i>n</i> -Triaccontane-d62	99		50 - 150	09/03/19 11:22	09/03/19 22:23	1			

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	<b>74.4</b>		0.1	0.1	%	⊗	08/30/19 14:26	08/30/19 14:26	1
Percent Moisture	<b>25.6</b>		0.1	0.1	%	⊗	09/03/19 14:26	09/03/19 14:26	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-05-SO**  
Date Collected: 08/22/19 11:54  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-5**  
Matrix: Solid  
Percent Solids: 79.5

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		12	4.9	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
2,4-Dinitrophenol	ND		180	36	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
2,4-Dinitrotoluene	ND		24	4.7	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
2,6-Dinitrotoluene	ND		12	3.7	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
3,3'-Dichlorobenzidine	ND		12	5.2	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
4-Chloroaniline	ND		180	57	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Bis(2-chloroethyl)ether	ND		12	3.7	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Hexachlorobenzene	ND		12	4.4	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Hexachlorobutadiene	ND		12	2.3	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Hexachlorocyclopentadiene	ND		12	4.2	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Hexachloroethane	ND		12	3.6	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Nitrobenzene	ND		12	3.7	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
N-Nitrosodimethylamine	ND		24	5.5	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
N-Nitrosodi-n-propylamine	ND		12	4.4	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
Pentachlorophenol	ND		360	110	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:17	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	77		28 - 143				09/04/19 09:12	09/04/19 19:17	1
2-Fluorobiphenyl	93		42 - 140				09/04/19 09:12	09/04/19 19:17	1
Nitrobenzene-d5	91		38 - 141				09/04/19 09:12	09/04/19 19:17	1
Terphenyl-d14	93		68 - 138				09/04/19 09:12	09/04/19 19:17	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		60	7.2	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
1,2-Dichlorobenzene	ND		60	14	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
1,3-Dichlorobenzene	ND		60	5.7	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
1,4-Dichlorobenzene	ND		60	9.9	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
1-Methylnaphthalene	ND		36	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2,4,5-Trichlorophenol	ND		240	54	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2,4-Dichlorophenol	ND		120	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2,4-Dimethylphenol	ND		120	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Chloronaphthalene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Chlorophenol	ND		240	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Methylnaphthalene	ND		60	11	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Methylphenol	ND		180	12	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Nitroaniline	ND		120	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
2-Nitrophenol	ND		240	25	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
3 & 4 Methylphenol	ND		240	18	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
3-Nitroaniline	ND		240	48	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4,6-Dinitro-2-methylphenol	ND		1200	120	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4-Bromophenyl phenyl ether	ND		240	11	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4-Chloro-3-methylphenol	ND		180	39	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4-Chlorophenyl phenyl ether	ND		240	7.5	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4-Nitroaniline	ND		180	60	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
4-Nitrophenol	ND		1800	440	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Acenaphthene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Acenaphthylene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Anthracene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzo[a]anthracene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1

Eurofins TestAmerica, Seattle

**Client Sample ID: TP-05-SO**  
**Date Collected: 08/22/19 11:54**  
**Date Received: 08/26/19 12:25**

**Client Sample Results**

**Lab Sample ID: 580-88695-5**  
**Matrix: Solid**  
**Percent Solids: 79.5**

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benz[ <i>a</i> ]pyrene	ND		72	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzol[b]fluoranthene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzol[g,h,i]perylene	ND		72	11	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzol[k]fluoranthene	ND		72	17	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzoic acid	ND		2400	690	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Benzyl alcohol	ND		600	92	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Bis(2-chloroethoxy)methane	ND		240	22	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Bis(2-ethylhexyl) phthalate	ND		720	85	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
bis(chloroisopropyl) ether	ND		240	17	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
<b>Butyl benzyl phthalate</b>	<b>80</b>	<b>J</b>	240	61	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Carbazole	ND *		180	9.8	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Chrysene	ND		72	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Dibenz(a,h)anthracene	ND		60	14	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Dibenzofuran	ND		180	7.1	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Diethyl phthalate	ND		1800	91	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Dimethyl phthalate	ND		180	16	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Di-n-butyl phthalate	ND		600	68	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Di-n-octyl phthalate	ND		180	68	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Fluoranthene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Fluorene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Indeno[1,2,3-cd]pyrene	ND		48	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Isophorone	ND		180	8.8	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Naphthalene	ND		30	6.0	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
N-Nitrosodiphenylamine	ND		72	9.6	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Phenanthrene	ND		72	14	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Phenol	ND		180	27	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1
Pyrene	ND		72	7.6	ug/Kg	⊗	09/04/19 09:12	09/06/19 21:52	1

**Surrogate** %Recovery Qualifier Limits Prepared Analyzed Dil Fac

2,4,6-Tribromophenol (Surf)	89		52 - 125	09/04/19 09:12	09/06/19 21:52	1
2-Fluorobiphenyl	84		57 - 120	09/04/19 09:12	09/06/19 21:52	1
2-Fluorophenol (Surf)	98		60 - 125	09/04/19 09:12	09/06/19 21:52	1
Nitrobenzene-d5 (Surf)	104		62 - 120	09/04/19 09:12	09/06/19 21:52	1
Phenol-d5 (Surf)	91		59 - 120	09/04/19 09:12	09/06/19 21:52	1
Terphenyl-d14 (Surf)	97		58 - 120	09/04/19 09:12	09/06/19 21:52	1

**Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (DRO)</b>	<b>14</b>		12	4.1	mg/Kg	⊗	09/03/19 11:22	09/03/19 22:43	1
(C10-C25)									
<b>Residual Range Organics (RRO)</b>	<b>110</b>		24	6.0	mg/Kg	⊗	09/03/19 11:22	09/03/19 22:43	1
(C25-C36)									
<b>Surrogate</b>	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>o</i> -Terphenyl	89		50 - 150	09/03/19 11:22	09/03/19 22:43	1			
<i>n</i> -Triaccontane-d62	97		50 - 150	09/03/19 11:22	09/03/19 22:43	1			

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	<b>79.5</b>		0.1	0.1	%	⊗	08/30/19 14:26	08/30/19 14:26	1
Percent Moisture	<b>20.5</b>		0.1	0.1	%	⊗	08/30/19 14:26	08/30/19 14:26	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-06-SO**  
Date Collected: 08/22/19 12:03  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-6**  
Matrix: Solid  
Percent Solids: 79.2

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.4	0.42	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,1,2,2-Tetrachloroethane	ND		15	2.0	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,1,2-Trichloroethane	ND		7.4	0.68	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,1-Dichloroethene	ND *		7.4	0.92	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,2-Dibromoethane	ND		7.4	0.67	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,2-Dichloroethane	ND		7.4	0.94	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
1,4-Dichlorobenzene	ND *		7.4	0.48	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Benzene	ND *		7.4	0.63	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Bromodichloromethane	ND		7.4	0.47	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Bromoform	ND		7.4	1.7	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Bromomethane	ND		7.4	1.1	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Chloroform	ND		7.4	0.45	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
cis-1,3-Dichloropropene	ND		7.4	0.55	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Dibromochloromethane	ND		7.4	0.85	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Dibromomethane	ND		7.4	0.88	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Hexachlorobutadiene	ND		7.4	0.98	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
<b>Naphthalene</b>	<b>9.4 * B</b>		7.4	1.4	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Tetrachloroethene	ND *		7.4	0.94	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
trans-1,3-Dichloropropene	ND		7.4	0.51	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Trichloroethene	ND *		7.4	0.64	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1
Vinyl chloride	ND		30	3.5	ug/Kg	✉	09/05/19 14:04	09/05/19 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	65	X	81 - 121	09/05/19 14:04	09/05/19 20:19	1
4-Bromofluorobenzene (Surr)	90		79 - 120	09/05/19 14:04	09/05/19 20:19	1
Dibromofluoromethane (Surr)	79		78 - 118	09/05/19 14:04	09/05/19 20:19	1
Toluene-d8 (Surr)	107		79 - 119	09/05/19 14:04	09/05/19 20:19	1
Trifluorotoluene (Surr)	91		52 - 152	09/05/19 14:04	09/05/19 20:19	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Naphthalene</b>	<b>36 H B</b>		7.4	1.4	ug/Kg	✉	09/14/19 14:31	09/14/19 20:31	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	83		81 - 121	09/14/19 14:31	09/14/19 20:31	1			
4-Bromofluorobenzene (Surr)	104		79 - 120	09/14/19 14:31	09/14/19 20:31	1			
Dibromofluoromethane (Surr)	89		78 - 118	09/14/19 14:31	09/14/19 20:31	1			
Toluene-d8 (Surr)	115		79 - 119	09/14/19 14:31	09/14/19 20:31	1			
Trifluorotoluene (Surr)	85		52 - 152	09/14/19 14:31	09/14/19 20:31	1			

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		60	14	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,1-Dichloroethane	ND		60	14	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,1-Dichloropropene	ND		60	7.9	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,2,3-Trichlorobenzene	ND		220	48	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,2,3-Trichloropropane	ND		60	17	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,2,4-Trichlorobenzene	ND		89	23	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
<b>1,2,4-Trimethylbenzene</b>	<b>23 J</b>		60	20	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1
1,2-Dibromo-3-Chloropropane	ND		370	23	ug/Kg	✉	09/04/19 12:48	09/04/19 21:00	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-06-SO**  
**Date Collected: 08/22/19 12:03**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-6**  
**Matrix: Solid**  
**Percent Solids: 79.2**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,2-Dichlorobenzene	ND		60	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
1,2-Dichloropropane	ND		30	9.8	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
1,3,5-Trimethylbenzene	ND		60	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
1,3-Dichlorobenzene	ND		89	20	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
1,3-Dichloropropane	ND		89	21	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
2,2-Dichloropropane	ND		60	18	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
2-Butanone	ND		890	280	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
2-Chlorotoluene	ND		60	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
4-Chlorotoluene	ND		60	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
4-Isopropyltoluene	ND		60	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
4-Methyl-2-pentanone	ND		600	120	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Acetone	ND		1200	260	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Bromobenzene	ND		150	25	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Bromochloromethane	ND		60	9.2	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Carbon disulfide	ND		89	18	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Carbon tetrachloride	ND		30	12	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Chlorobenzene	ND		60	7.1	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Chloroethane	ND		600	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Chloromethane	ND		150	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
cis-1,2-Dichloroethene	ND		89	19	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Dichlorodifluoromethane	ND		300	68	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Ethylbenzene	ND		60	14	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Isopropylbenzene	ND		60	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
<b>Methyl tert-butyl ether</b>	<b>39</b>	<b>J</b>		60	8.9	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1
Methylene Chloride	ND		370	96	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
m-Xylene & p-Xylene	ND		300	22	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
n-Butylbenzene	ND		220	12	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
N-Propylbenzene	ND		60	10	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
o-Xylene	ND		89	20	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
sec-Butylbenzene	ND		60	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Styrene	ND		60	9.1	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
t-Butylbenzene	ND		60	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Toluene	ND		220	20	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
trans-1,2-Dichloroethene	ND		89	22	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	
Trichlorofluoromethane	ND		300	17	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:00	1	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		80 - 121	09/04/19 12:48	09/04/19 21:00	1
4-Bromofluorobenzene (Surr)	99		80 - 120	09/04/19 12:48	09/04/19 21:00	1
Dibromofluoromethane (Surr)	92		80 - 120	09/04/19 12:48	09/04/19 21:00	1
Toluene-d8 (Surr)	105		80 - 120	09/04/19 12:48	09/04/19 21:00	1
Trifluorotoluene (Surr)	60	X	80 - 120	09/04/19 12:48	09/04/19 21:00	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		59	24	ug/Kg	⌚	09/04/19 09:12	09/04/19 19:40	5
2,4-Dinitrophenol	ND		890	180	ug/Kg	⌚	09/04/19 09:12	09/04/19 19:40	5
2,4-Dinitrotoluene	ND		120	23	ug/Kg	⌚	09/04/19 09:12	09/04/19 19:40	5
<b>2,6-Dinitrotoluene</b>	<b>1200</b>		59	18	ug/Kg	⌚	09/04/19 09:12	09/04/19 19:40	5
3,3'-Dichlorobenzidine	ND		59	26	ug/Kg	⌚	09/04/19 09:12	09/04/19 19:40	5

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-06-SO**  
**Date Collected: 08/22/19 12:03**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-6**  
**Matrix: Solid**  
**Percent Solids: 79.2**

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		890	280	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
Bis(2-chloroethyl)ether	ND		59	18	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
<b>Hexachlorobenzene</b>	<b>520</b>		59	22	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
Hexachlorobutadiene	ND		59	12	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
Hexachlorocyclopentadiene	ND		59	21	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
Hexachloroethane	ND		59	18	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
Nitrobenzene	ND		59	18	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
N-Nitrosodimethylamine	ND		120	27	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
N-Nitrosodi-n-propylamine	ND		59	22	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
<b>Pentachlorophenol</b>	<b>3000</b>		1800	540	ug/Kg	⊗	09/04/19 09:12	09/04/19 19:40	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	86		28 - 143				09/04/19 09:12	09/04/19 19:40	5
2-Fluorobiphenyl	73		42 - 140				09/04/19 09:12	09/04/19 19:40	5
Nitrobenzene-d5	90		38 - 141				09/04/19 09:12	09/04/19 19:40	5
Terphenyl-d14	97		68 - 138				09/04/19 09:12	09/04/19 19:40	5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		590	71	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
1,2-Dichlorobenzene	ND		590	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
1,3-Dichlorobenzene	ND		590	57	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
1,4-Dichlorobenzene	ND		590	98	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
1-Methylnaphthalene	ND		350	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2,4,5-Trichlorophenol	ND		2400	530	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2,4-Dichlorophenol	ND		1200	180	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2,4-Dimethylphenol	ND		1200	180	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Chloronaphthalene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Chlorophenol	ND		2400	150	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Methylnaphthalene	ND		590	100	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Methylphenol	ND		1800	120	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Nitroaniline	ND		1200	180	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
2-Nitrophenol	ND		2400	250	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
3 & 4 Methylphenol	ND		2400	180	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
3-Nitroaniline	ND		2400	470	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4,6-Dinitro-2-methylphenol	ND		12000	1200	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4-Bromophenyl phenyl ether	ND		2400	110	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4-Chloro-3-methylphenol	ND		1800	390	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4-Chlorophenyl phenyl ether	ND		2400	75	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4-Nitroaniline	ND		1800	590	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
4-Nitrophenol	ND		18000	4400	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Acenaphthene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Acenaphthylene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Anthracene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzo[a]anthracene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzo[a]pyrene	ND		710	150	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzo[b]fluoranthene	ND		300	59	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzo[g,h,i]perylene	ND		710	110	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzo[k]fluoranthene	ND		710	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10
Benzoic acid	ND		24000	6800	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:15	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-06-SO**  
Date Collected: 08/22/19 12:03  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-6**  
Matrix: Solid  
Percent Solids: 79.2

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		5900	910	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Bis(2-chloroethoxy)methane	ND		2400	210	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Bis(2-ethylhexyl) phthalate	ND		7100	840	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
bis(chloroisopropyl) ether	ND		2400	170	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Butyl benzyl phthalate	ND		2400	600	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Carbazole	ND *		1800	97	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Chrysene	ND		710	150	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Dibenz(a,h)anthracene	ND		590	140	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Dibenzofuran	ND		1800	70	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Diethyl phthalate	ND		18000	900	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Dimethyl phthalate	ND		1800	150	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Di-n-butyl phthalate	ND		5900	670	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Di-n-octyl phthalate	ND		1800	670	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Fluoranthene	ND		300	59	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Fluorene	ND		300	59	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Indeno[1,2,3-cd]pyrene	ND		470	59	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Isophorone	ND		1800	88	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Naphthalene	ND		300	59	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
N-Nitrosodiphenylamine	ND		710	95	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Phenanthrene	ND		710	140	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
Phenol	ND		1800	270	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
<b>Pyrene</b>	<b>300 J</b>		710	76	ug/Kg	✉	09/04/19 09:12	09/06/19 22:15	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol (Surr)	128	X		52 - 125			09/04/19 09:12	09/06/19 22:15	10
2-Fluorobiphenyl	83			57 - 120			09/04/19 09:12	09/06/19 22:15	10
2-Fluorophenol (Surr)	79			60 - 125			09/04/19 09:12	09/06/19 22:15	10
Nitrobenzene-d5 (Surr)	101			62 - 120			09/04/19 09:12	09/06/19 22:15	10
Phenol-d5 (Surr)	81			59 - 120			09/04/19 09:12	09/06/19 22:15	10
Terphenyl-d14 (Surr)	95			58 - 120			09/04/19 09:12	09/06/19 22:15	10

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.32	0.070	ug/Kg	✉	09/03/19 16:43	09/06/19 20:32	1
Ethylene Dibromide	ND		0.053	0.013	ug/Kg	✉	09/03/19 16:43	09/06/19 20:32	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dibromopropane	10	X		60 - 140			09/03/19 16:43	09/06/19 20:32	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1221	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1232	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1242	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1248	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1254	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1260	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1268	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1
PCB-1262	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 13:37	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-06-SO**

Date Collected: 08/22/19 12:03  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-6**

Matrix: Solid

Percent Solids: 79.2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	61		31 - 142	09/06/19 08:42	09/09/19 13:37	1
DCB Decachlorobiphenyl (Surr)	0.2	X	20 - 150	09/06/19 08:42	09/09/19 13:37	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	9400		370	130	mg/Kg	✉	09/03/19 11:22	09/03/19 23:03	10
Residual Range Organics (RRO) (C25-C36)	33000		750	190	mg/Kg	✉	09/03/19 11:22	09/03/19 23:03	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	104		50 - 150	09/03/19 11:22	09/03/19 23:03	10
<i>n</i> -Tricontane-d62	21	X	50 - 150	09/03/19 11:22	09/03/19 23:03	10

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.4	B	0.23	0.046	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Barium	140		0.46	0.10	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Cadmium	0.41		0.18	0.035	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Chromium	24	B	0.23	0.029	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Lead	10		0.23	0.022	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Selenium	0.78	B	0.50	0.13	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5
Silver	0.11		0.091	0.0091	mg/Kg	✉	09/06/19 10:17	09/10/19 18:29	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.064		0.030	0.0090	mg/Kg	✉	09/09/19 10:05	09/09/19 15:11	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.2		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	20.8		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-07-SO**  
Date Collected: 08/22/19 12:09  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-7**  
Matrix: Solid  
Percent Solids: 83.6

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.5	0.36	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,1,2,2-Tetrachloroethane	ND		13	1.8	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,1,2-Trichloroethane	ND		6.5	0.59	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,1-Dichloroethene	ND *		6.5	0.80	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,2-Dibromoethane	ND		6.5	0.58	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,2-Dichloroethane	ND		6.5	0.81	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
1,4-Dichlorobenzene	ND *		6.5	0.41	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
<b>Benzene</b>	<b>0.62 J *</b>		6.5	0.54	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Bromodichloromethane	ND		6.5	0.41	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Bromoform	ND		6.5	1.5	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Bromomethane	ND		6.5	0.96	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Chloroform	ND		6.5	0.39	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
cis-1,3-Dichloropropene	ND		6.5	0.48	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Dibromochloromethane	ND		6.5	0.74	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Dibromomethane	ND		6.5	0.76	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Hexachlorobutadiene	ND		6.5	0.85	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
<b>Naphthalene</b>	<b>17 * B</b>		6.5	1.2	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Tetrachloroethene	ND *		6.5	0.81	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
trans-1,3-Dichloropropene	ND		6.5	0.44	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Trichloroethene	ND *		6.5	0.56	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1
Vinyl chloride	ND		26	3.1	ug/Kg	⊗	09/05/19 14:04	09/05/19 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		81 - 121	09/05/19 14:04	09/05/19 20:45	1
4-Bromofluorobenzene (Surr)	96		79 - 120	09/05/19 14:04	09/05/19 20:45	1
Dibromofluoromethane (Surr)	94		78 - 118	09/05/19 14:04	09/05/19 20:45	1
Toluene-d8 (Surr)	102		79 - 119	09/05/19 14:04	09/05/19 20:45	1
Trifluorotoluene (Surr)	102		52 - 152	09/05/19 14:04	09/05/19 20:45	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Naphthalene</b>	<b>23 H B</b>		6.5	1.2	ug/Kg	⊗	09/14/19 14:31	09/14/19 20:57	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	94		81 - 121	09/14/19 14:31	09/14/19 20:57	1			
4-Bromofluorobenzene (Surr)	91		79 - 120	09/14/19 14:31	09/14/19 20:57	1			
Dibromofluoromethane (Surr)	93		78 - 118	09/14/19 14:31	09/14/19 20:57	1			
Toluene-d8 (Surr)	100		79 - 119	09/14/19 14:31	09/14/19 20:57	1			
Trifluorotoluene (Surr)	114		52 - 152	09/14/19 14:31	09/14/19 20:57	1			

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		52	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,1-Dichloroethane	ND		52	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,1-Dichloropropene	ND		52	6.8	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2,3-Trichlorobenzene	ND		190	41	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2,3-Trichloropropane	ND		52	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2,4-Trichlorobenzene	ND		77	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2,4-Trimethylbenzene	ND		52	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2-Dibromo-3-Chloropropane	ND		320	20	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-07-SO**  
**Date Collected: 08/22/19 12:09**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-7**  
**Matrix: Solid**  
**Percent Solids: 83.6**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		52	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,2-Dichloropropane	ND		26	8.5	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,3,5-Trimethylbenzene	ND		52	9.8	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,3-Dichlorobenzene	ND		77	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
1,3-Dichloropropane	ND		77	18	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
2,2-Dichloropropane	ND		52	16	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
2-Butanone	ND		770	240	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
2-Chlorotoluene	ND		52	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
4-Chlorotoluene	ND		52	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
4-Isopropyltoluene	ND		52	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
4-Methyl-2-pentanone	ND		520	100	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Acetone	ND		1000	220	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Bromobenzene	ND		130	22	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Bromochloromethane	ND		52	8.0	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Carbon disulfide	ND		77	16	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Carbon tetrachloride	ND		26	10	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Chlorobenzene	ND		52	6.2	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Chloroethane	ND		520	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Chloromethane	ND		130	13	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
cis-1,2-Dichloroethene	ND		77	16	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Dichlorodifluoromethane	ND		260	59	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Ethylbenzene	ND		52	12	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Isopropylbenzene	ND		52	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Methyl tert-butyl ether	ND		52	7.7	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Methylene Chloride	ND		320	83	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
m-Xylene & p-Xylene	ND		260	19	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
n-Butylbenzene	ND		190	10	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
N-Propylbenzene	ND		52	8.9	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
o-Xylene	ND		77	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
sec-Butylbenzene	ND		52	11	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Styrene	ND		52	7.9	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
t-Butylbenzene	ND		52	9.9	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Toluene	ND		190	17	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
trans-1,2-Dichloroethene	ND		77	19	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1
Trichlorofluoromethane	ND		260	15	ug/Kg	⊗	09/04/19 12:48	09/04/19 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 121	09/04/19 12:48	09/04/19 21:25	1
4-Bromofluorobenzene (Surr)	117		80 - 120	09/04/19 12:48	09/04/19 21:25	1
Dibromofluoromethane (Surr)	97		80 - 120	09/04/19 12:48	09/04/19 21:25	1
Toluene-d8 (Surr)	101		80 - 120	09/04/19 12:48	09/04/19 21:25	1
Trifluorotoluene (Surr)	72	X	80 - 120	09/04/19 12:48	09/04/19 21:25	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		220	90	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
2,4-Dinitrophenol	ND		3300	650	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
2,4-Dinitrotoluene	ND		430	86	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
2,6-Dinitrotoluene	ND		220	67	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
3,3'-Dichlorobenzidine	ND		220	94	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-07-SO**  
**Date Collected: 08/22/19 12:09**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-7**  
**Matrix: Solid**  
**Percent Solids: 83.6**

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		3300	1000	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
Bis(2-chloroethyl)ether	ND		220	66	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
<b>Hexachlorobenzene</b>	<b>990</b>		220	80	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
Hexachlorobutadiene	ND		220	42	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
Hexachlorocyclopentadiene	ND		220	76	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
Hexachloroethane	ND		220	65	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
Nitrobenzene	ND		220	67	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
N-Nitrosodimethylamine	ND		430	100	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
N-Nitrosodi-n-propylamine	ND		220	79	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
<b>Pentachlorophenol</b>	<b>4000 J</b>		6500	2000	ug/Kg	⊗	09/04/19 09:12	09/05/19 13:59	20
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	115		28 - 143				09/04/19 09:12	09/05/19 13:59	20
2-Fluorobiphenyl	77		42 - 140				09/04/19 09:12	09/05/19 13:59	20
Nitrobenzene-d5	376 X		38 - 141				09/04/19 09:12	09/05/19 13:59	20
Terphenyl-d14	85		68 - 138				09/04/19 09:12	09/05/19 13:59	20

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1400	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
1,2-Dichlorobenzene	ND		1400	330	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
1,3-Dichlorobenzene	ND		1400	130	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
1,4-Dichlorobenzene	ND		1400	230	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
1-Methylnaphthalene	ND		810	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2,4,5-Trichlorophenol	ND		5400	1200	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2,4-Dichlorophenol	ND		2700	410	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2,4-Dimethylphenol	ND		2700	410	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Chloronaphthalene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Chlorophenol	ND		5400	350	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Methylnaphthalene	ND		1400	240	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Methylphenol	ND		4100	270	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Nitroaniline	ND		2700	410	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
2-Nitrophenol	ND		5400	570	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
3 & 4 Methylphenol	ND		5400	410	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
3-Nitroaniline	ND		5400	1100	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4,6-Dinitro-2-methylphenol	ND		27000	2700	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4-Bromophenyl phenyl ether	ND		5400	250	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4-Chloro-3-methylphenol	ND		4100	890	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4-Chlorophenyl phenyl ether	ND		5400	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4-Nitroaniline	ND		4100	1400	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
4-Nitrophenol	ND		41000	10000	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Acenaphthene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Acenaphthylene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Anthracene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzo[a]anthracene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzo[a]pyrene	ND		1600	350	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzo[b]fluoranthene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzo[g,h,i]perylene	ND		1600	240	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzo[k]fluoranthene	ND		1600	380	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Benzoic acid	ND		54000	16000	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25

Eurofins TestAmerica, Seattle

**Client Sample ID: TP-07-SO**  
 Date Collected: 08/22/19 12:09  
 Date Received: 08/26/19 12:25

2

**Lab Sample ID: 580-88695-7**  
 Matrix: Solid  
 Percent Solids: 83.6

3

4

5

**Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		14000	2100	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Bis(2-chloroethoxy)methane	ND		5400	490	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
<b>Bis(2-ethylhexyl) phthalate</b>	<b>2400 J</b>		16000	1900	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
bis(chloroisopropyl) ether	ND		5400	380	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Butyl benzyl phthalate	ND		5400	1400	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Carbazole	ND *		4100	220	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Chrysene	ND		1600	350	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Dibenz(a,h)anthracene	ND		1400	330	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Dibenzofuran	ND		4100	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Diethyl phthalate	ND		41000	2100	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Dimethyl phthalate	ND		4100	350	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Di-n-butyl phthalate	ND		14000	1500	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Di-n-octyl phthalate	ND		4100	1500	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Fluoranthene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Fluorene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Indeno[1,2,3-cd]pyrene	ND		1100	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Isophorone	ND		4100	200	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Naphthalene	ND		680	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
N-Nitroodiphenylamine	ND		1600	220	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Phenanthrene	ND		1600	330	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
Phenol	ND		4100	620	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
<b>Pyrene</b>	<b>360 J</b>		1600	170	ug/Kg	⊗	09/04/19 09:12	09/06/19 22:39	25
<b>Surrogate</b>		%Recovery	Qualifier	Limits					
2,4,6-Tribromophenol (Surrt)	188 X			52 - 125					
2-Fluorobiphenyl	89			57 - 120					
2-Fluorophenol (Surrt)	81			60 - 125					
Nitrobenzene-d5 (Surrt)	403 X			62 - 120					
Phenol-d5 (Surrt)	56 X			59 - 120					
Terphenyl-d14 (Surrt)	112			58 - 120					

**Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1221	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1232	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1242	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1248	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1254	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1260	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1268	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
PCB-1262	ND		12	2.5	ug/Kg	⊗	09/06/19 09:42	09/09/19 13:58	1
<b>Surrogate</b>		%Recovery	Qualifier	Limits					
Tetrachloro-m-xylene	1355 X			31 - 142					
DCB Decachlorobiphenyl (Surrt)	5 X			20 - 150					

**Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (DRO) (C10-C25)</b>	<b>9100</b>		120	40	mg/Kg	⊗	09/03/19 11:22	09/05/19 00:46	10

Eurofins TestAmerica, Seattle

## Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

### Client Sample ID: TP-07-SO

Date Collected: 08/22/19 12:09

Date Received: 08/26/19 12:25

### Lab Sample ID: 580-88695-7

Matrix: Solid

Percent Solids: 83.6

#### Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Residual Range Organics (RRO) (C25-C36)	9300		240	59	mg/Kg	⊗	09/03/19 11:22	09/05/19 00:46	10
Surrogate	%Recovery	Qualifier	Limits						
o-Terphenyl	108	X	50 - 150				09/03/19 11:22	09/05/19 00:46	10
n-Triaccontane-d62			50 - 150				09/03/19 11:22	09/05/19 00:46	10

#### Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23	B	0.22	0.044	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Barium	120		0.44	0.099	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Cadmium	0.31		0.17	0.034	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Chromium	23	B	0.22	0.027	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Lead	7.6		0.22	0.021	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Selenium	0.67	B	0.48	0.12	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5
Silver	0.089		0.087	0.0087	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:34	5

#### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.6		0.1	0.1	%				1
Percent Moisture	16.4		0.1	0.1	%				1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
Date Collected: 08/22/19 12:05  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-8**  
Matrix: Solid  
Percent Solids: 86.1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.3	0.35	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,1,2,2-Tetrachloroethane	ND		13	1.7	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,1,2-Trichloroethane	ND		6.3	0.58	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,1-Dichloroethene	ND *		6.3	0.78	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,2-Dibromoethane	ND		6.3	0.56	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,2-Dichloroethane	ND		6.3	0.79	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
1,4-Dichlorobenzene	ND *		6.3	0.40	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Benzene	ND *		6.3	0.53	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Bromodichloromethane	ND		6.3	0.39	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Bromoform	ND		6.3	1.4	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Bromomethane	ND		6.3	0.93	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Chloroform	ND		6.3	0.38	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
cis-1,3-Dichloropropene	ND		6.3	0.46	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Dibromochloromethane	ND		6.3	0.71	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Dibromomethane	ND		6.3	0.74	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Hexachlorobutadiene	ND		6.3	0.83	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
<b>Naphthalene</b>	<b>5.9 J * B</b>		6.3	1.1	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Tetrachloroethene	ND *		6.3	0.79	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
trans-1,3-Dichloropropene	ND		6.3	0.43	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Trichloroethene	ND *		6.3	0.54	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1
Vinyl chloride	ND		25	3.0	ug/Kg	✉	09/05/19 14:04	09/05/19 21:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77	X	81 - 121	09/05/19 14:04	09/05/19 21:10	1
4-Bromofluorobenzene (Surr)	94		79 - 120	09/05/19 14:04	09/05/19 21:10	1
Dibromofluoromethane (Surr)	92		78 - 118	09/05/19 14:04	09/05/19 21:10	1
Toluene-d8 (Surr)	105		79 - 119	09/05/19 14:04	09/05/19 21:10	1
Trifluorotoluene (Surr)	75		52 - 152	09/05/19 14:04	09/05/19 21:10	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Naphthalene</b>	<b>16 H B</b>		6.3	1.1	ug/Kg	✉	09/14/19 14:31	09/14/19 21:22	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	83		81 - 121	09/14/19 14:31	09/14/19 21:22	1			
4-Bromofluorobenzene (Surr)	98		79 - 120	09/14/19 14:31	09/14/19 21:22	1			
Dibromofluoromethane (Surr)	87		78 - 118	09/14/19 14:31	09/14/19 21:22	1			
Toluene-d8 (Surr)	104		79 - 119	09/14/19 14:31	09/14/19 21:22	1			
Trifluorotoluene (Surr)	96		52 - 152	09/14/19 14:31	09/14/19 21:22	1			

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		50	12	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,1-Dichloroethane	ND		50	12	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,1-Dichloropropene	ND		50	6.6	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,2,3-Trichlorobenzene	ND		190	40	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,2,3-Trichloropropane	ND		50	14	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,2,4-Trichlorobenzene	ND		75	19	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,2,4-Trimethylbenzene	ND		50	17	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1
1,2-Dibromo-3-Chloropropane	ND		310	19	ug/Kg	✉	09/04/19 12:48	09/04/19 21:50	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
**Date Collected: 08/22/19 12:05**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-8**  
**Matrix: Solid**  
**Percent Solids: 86.1**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,2-Dichlorobenzene	ND		50	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
1,2-Dichloropropane	ND		25	8.3	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
1,3,5-Trimethylbenzene	ND		50	9.5	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
1,3-Dichlorobenzene	ND		75	17	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
1,3-Dichloropropane	ND		75	17	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
2,2-Dichloropropane	ND		50	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
2-Butanone	ND		750	230	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
2-Chlorotoluene	ND		50	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
4-Chlorotoluene	ND		50	12	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
4-Isopropyltoluene	ND		50	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
4-Methyl-2-pentanone	ND		500	100	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Acetone	ND		1000	220	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Bromobenzene	ND		130	21	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Bromochloromethane	ND		50	7.8	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Carbon disulfide	ND		75	15	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Carbon tetrachloride	ND		25	10	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Chlorobenzene	ND		50	6.0	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Chloroethane	ND		500	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Chloromethane	ND		130	13	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
cis-1,2-Dichloroethene	ND		75	16	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Dichlorodifluoromethane	ND		250	57	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Ethylbenzene	ND		50	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Isopropylbenzene	ND		50	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
<b>Methyl tert-butyl ether</b>	<b>26</b>	<b>J</b>		50	7.5	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1
Methylene Chloride	ND		310	81	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
m-Xylene & p-Xylene	ND		250	19	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
n-Butylbenzene	ND		190	10	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
N-Propylbenzene	ND		50	8.6	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
o-Xylene	ND		75	17	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
sec-Butylbenzene	ND		50	11	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Styrene	ND		50	7.6	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
t-Butylbenzene	ND		50	9.6	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Toluene	ND		190	17	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
trans-1,2-Dichloroethene	ND		75	18	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	
Trichlorofluoromethane	ND		250	14	ug/Kg	⌚	09/04/19 12:48	09/04/19 21:50	1	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		80 - 121	09/04/19 12:48	09/04/19 21:50	1
4-Bromofluorobenzene (Surr)	97		80 - 120	09/04/19 12:48	09/04/19 21:50	1
Dibromofluoromethane (Surr)	93		80 - 120	09/04/19 12:48	09/04/19 21:50	1
Toluene-d8 (Surr)	106		80 - 120	09/04/19 12:48	09/04/19 21:50	1
Trifluorotoluene (Surr)	59	X	80 - 120	09/04/19 12:48	09/04/19 21:50	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		53	22	ug/Kg	⌚	09/04/19 09:12	09/04/19 20:27	5
2,4-Dinitrophenol	ND		790	160	ug/Kg	⌚	09/04/19 09:12	09/04/19 20:27	5
2,4-Dinitrotoluene	ND		110	21	ug/Kg	⌚	09/04/19 09:12	09/04/19 20:27	5
<b>2,6-Dinitrotoluene</b>	<b>860</b>		53	16	ug/Kg	⌚	09/04/19 09:12	09/04/19 20:27	5
3,3'-Dichlorobenzidine	ND		53	23	ug/Kg	⌚	09/04/19 09:12	09/04/19 20:27	5

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
**Date Collected: 08/22/19 12:05**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-8**  
**Matrix: Solid**  
**Percent Solids: 86.1**

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		790	250	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
Bis(2-chloroethyl)ether	ND		53	16	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
<b>Hexachlorobenzene</b>	<b>480</b>		53	19	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
Hexachlorobutadiene	ND		53	10	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
Hexachlorocyclopentadiene	ND		53	18	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
Hexachloroethane	ND		53	16	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
<b>Nitrobenzene</b>	<b>120</b>		53	16	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
N-Nitrosodimethylamine	ND		110	24	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
N-Nitrosodi-n-propylamine	ND		53	19	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
<b>Pentachlorophenol</b>	<b>13000</b>		1600	480	ug/Kg	⊗	09/04/19 09:12	09/04/19 20:27	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	95		28 - 143				09/04/19 09:12	09/04/19 20:27	5
2-Fluorobiphenyl	78		42 - 140				09/04/19 09:12	09/04/19 20:27	5
Nitrobenzene-d5	85		38 - 141				09/04/19 09:12	09/04/19 20:27	5
Terphenyl-d14	111		68 - 138				09/04/19 09:12	09/04/19 20:27	5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		530	63	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
1,2-Dichlorobenzene	ND		530	130	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
1,3-Dichlorobenzene	ND		530	51	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
1,4-Dichlorobenzene	ND		530	87	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
1-Methylnaphthalene	ND		320	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2,4,5-Trichlorophenol	ND		2100	470	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2,4-Dichlorophenol	ND		1100	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2,4-Dimethylphenol	ND		1100	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Chloronaphthalene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Chlorophenol	ND		2100	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Methylnaphthalene	ND		530	93	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Methylphenol	ND		1600	100	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Nitroaniline	ND		1100	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
2-Nitrophenol	ND		2100	220	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
3 & 4 Methylphenol	ND		2100	160	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
3-Nitroaniline	ND		2100	420	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4,6-Dinitro-2-methylphenol	ND		11000	1100	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4-Bromophenyl phenyl ether	ND		2100	96	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4-Chloro-3-methylphenol	ND		1600	350	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4-Chlorophenyl phenyl ether	ND		2100	66	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4-Nitroaniline	ND		1600	530	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
4-Nitrophenol	ND		16000	3900	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Acenaphthene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Acenaphthylene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Anthracene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzo[a]anthracene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzo[a]pyrene	ND		630	140	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzo[b]fluoranthene	ND		260	53	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzo[g,h,i]perylene	ND		630	95	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzo[k]fluoranthene	ND		630	150	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10
Benzoic acid	ND		21000	6100	ug/Kg	⊗	09/04/19 09:12	09/06/19 23:03	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
Date Collected: 08/22/19 12:05  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-8**  
Matrix: Solid  
Percent Solids: 86.1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		5300	810	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Bis(2-chloroethoxy)methane	ND		2100	190	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
<b>Bis(2-ethylhexyl) phthalate</b>	<b>2600</b>	<b>J</b>	6300	750	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
bis(chloroisopropyl) ether	ND		2100	150	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Butyl benzyl phthalate	ND		2100	540	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Carbazole	ND *		1600	86	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Chrysene	ND		630	140	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Dibenz(a,h)anthracene	ND		530	130	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Dibenzofuran	ND		1600	62	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Diethyl phthalate	ND		16000	800	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Dimethyl phthalate	ND		1600	140	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Di-n-butyl phthalate	ND		5300	600	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Di-n-octyl phthalate	ND		1600	600	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Fluoranthene	ND		260	53	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Fluorene	ND		260	53	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Indeno[1,2,3-cd]pyrene	ND		420	53	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Isophorone	ND		1600	78	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Naphthalene	ND		260	53	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
N-Nitrosodiphenylamine	ND		630	84	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Phenanthrene	ND		630	130	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Phenol	ND		1600	240	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
<b>Pyrene</b>	<b>300</b>	<b>J</b>	630	67	ug/Kg	✉	09/04/19 09:12	09/06/19 23:03	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	151	X	52 - 125				09/04/19 09:12	09/06/19 23:03	10
2-Fluorobiphenyl	86		57 - 120				09/04/19 09:12	09/06/19 23:03	10
2-Fluorophenol (Surr)	98		60 - 125				09/04/19 09:12	09/06/19 23:03	10
Nitrobenzene-d5 (Surr)	118		62 - 120				09/04/19 09:12	09/06/19 23:03	10
Phenol-d5 (Surr)	108		59 - 120				09/04/19 09:12	09/06/19 23:03	10
Terphenyl-d14 (Surr)	119		58 - 120				09/04/19 09:12	09/06/19 23:03	10

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.30	0.067	ug/Kg	✉	09/03/19 16:43	09/06/19 20:48	1
Ethylene Dibromide	ND		0.051	0.012	ug/Kg	✉	09/03/19 16:43	09/06/19 20:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	13	X	60 - 140				09/03/19 16:43	09/06/19 20:48	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1221	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1232	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1242	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1248	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1254	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1260	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1268	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1
PCB-1262	ND		12	2.5	ug/Kg	✉	09/06/19 08:42	09/09/19 14:39	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
**Date Collected: 08/22/19 12:05**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-8**  
**Matrix: Solid**  
**Percent Solids: 86.1**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	43		31 - 142	09/06/19 08:42	09/09/19 14:39	1
DCB Decachlorobiphenyl (Surr)	197	X	20 - 150	09/06/19 08:42	09/09/19 14:39	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	5800		230	77	mg/Kg	✉	09/03/19 11:22	09/03/19 23:42	20
Residual Range Organics (RRO) (C25-C36)	21000		460	110	mg/Kg	✉	09/03/19 11:22	09/03/19 23:42	20

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.5	B	0.22	0.043	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Barium	120		0.43	0.099	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Cadmium	0.45		0.17	0.033	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Chromium	20	B	0.22	0.027	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Lead	8.7		0.22	0.021	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Selenium	0.65	B	0.48	0.12	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5
Silver	0.071	J	0.087	0.0087	mg/Kg	✉	09/06/19 10:17	09/10/19 18:38	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.016	J	0.027	0.0080	mg/Kg	✉	09/09/19 10:05	09/09/19 15:13	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.1		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	13.9		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**  
**Date Collected: 08/22/19 00:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-9**  
**Matrix: Solid**

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,1,2-Trichloroethane	ND		5.0	0.46	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,1-Dichloroethene	ND *		5.0	0.62	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,2-Dichloroethane	ND		5.0	0.63	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
1,4-Dichlorobenzene	ND *		5.0	0.32	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Benzene	ND *		5.0	0.42	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Bromodichloromethane	ND		5.0	0.32	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Bromoform	ND		5.0	1.1	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Bromomethane	ND		5.0	0.74	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Chloroform	ND		5.0	0.30	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
<b>cis-1,3-Dichloropropene</b>	<b>1.1 JB</b>		5.0	0.37	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Dibromochloromethane	ND		5.0	0.57	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Dibromomethane	ND		5.0	0.59	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
<b>Hexachlorobutadiene</b>	<b>2.7 J</b>		5.0	0.66	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
<b>Naphthalene</b>	<b>4.3 J * B</b>		5.0	0.91	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Tetrachloroethene	ND *		5.0	0.63	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Trichloroethene	ND *		5.0	0.43	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
Vinyl chloride	ND		20	2.4	ug/Kg	09/05/19 14:04	09/05/19 19:01		1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	104		81 - 121				09/05/19 14:04	09/05/19 19:01	
4-Bromofluorobenzene (Surr)	103		79 - 120				09/05/19 14:04	09/05/19 19:01	
Dibromofluoromethane (Surr)	98		78 - 118				09/05/19 14:04	09/05/19 19:01	
Toluene-d8 (Surr)	100		79 - 119				09/05/19 14:04	09/05/19 19:01	
Trifluorotoluene (Surr)	106		52 - 152				09/05/19 14:04	09/05/19 19:01	

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Hexachlorobutadiene</b>	<b>11 HB</b>		5.0	0.66	ug/Kg	09/14/19 14:31	09/14/19 19:39		1
<b>Naphthalene</b>	<b>19 HB</b>		5.0	0.91	ug/Kg	09/14/19 14:31	09/14/19 19:39		1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	98		81 - 121				09/14/19 14:31	09/14/19 19:39	
4-Bromofluorobenzene (Surr)	107		79 - 120				09/14/19 14:31	09/14/19 19:39	
Dibromofluoromethane (Surr)	97		78 - 118				09/14/19 14:31	09/14/19 19:39	
Toluene-d8 (Surr)	101		79 - 119				09/14/19 14:31	09/14/19 19:39	
Trifluorotoluene (Surr)	107		52 - 152				09/14/19 14:31	09/14/19 19:39	

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,1-Dichloroethane	ND		40	9.2	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,1-Dichloropropene	ND		40	5.3	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2,3-Trichlorobenzene	ND		150	32	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2,3-Trichloropropane	ND		40	12	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg	09/04/19 12:48	09/04/19 22:15		1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**  
**Date Collected: 08/22/19 00:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-9**  
**Matrix: Solid**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,2-Dichloropropane	ND		20	6.6	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,3-Dichlorobenzene	ND		60	13	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
1,3-Dichloropropane	ND		60	14	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
2,2-Dichloropropane	ND		40	12	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
2-Butanone	ND		600	190	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
2-Chlorotoluene	ND		40	8.8	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
4-Chlorotoluene	ND		40	9.8	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
4-Isopropyltoluene	ND		40	10	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
4-Methyl-2-pentanone	ND		400	81	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Acetone	ND		800	170	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Bromobenzene	ND		100	17	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Bromochloromethane	ND		40	6.2	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Carbon disulfide	ND		60	12	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Carbon tetrachloride	ND		20	8.1	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Chlorobenzene	ND		40	4.8	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Chloroethane	ND		400	10	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Chloromethane	ND		100	10	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Dichlorodifluoromethane	ND		200	46	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Ethylbenzene	ND		40	9.1	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Isopropylbenzene	ND		40	8.6	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Methylene Chloride	ND		250	65	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
m-Xylene & p-Xylene	ND		200	15	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
n-Butylbenzene	ND		150	8.0	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
N-Propylbenzene	ND		40	6.9	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
o-Xylene	ND		60	13	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
sec-Butylbenzene	ND		40	8.6	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Styrene	ND		40	6.1	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
t-Butylbenzene	ND		40	7.7	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Toluene	ND		150	14	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg	09/04/19 12:48	09/04/19 22:15		1
Trichlorofluoromethane	ND		200	11	ug/Kg	09/04/19 12:48	09/04/19 22:15		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		80 - 121	09/04/19 12:48	09/04/19 22:15	1
4-Bromofluorobenzene (Surr)	96		80 - 120	09/04/19 12:48	09/04/19 22:15	1
Dibromofluoromethane (Surr)	94		80 - 120	09/04/19 12:48	09/04/19 22:15	1
Toluene-d8 (Surr)	104		80 - 120	09/04/19 12:48	09/04/19 22:15	1
Trifluorotoluene (Surr)	73	X	80 - 120	09/04/19 12:48	09/04/19 22:15	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**  
**Date Collected: 08/20/19 00:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-10**  
**Matrix: Solid**

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,1,2-Trichloroethane	ND *		5.0	0.46	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,1-Dichloroethene	ND *		5.0	0.62	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,2-Dichloroethane	ND *		5.0	0.63	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
1,4-Dichlorobenzene	ND		5.0	0.32	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Benzene	ND *		5.0	0.42	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Bromodichloromethane	ND *		5.0	0.32	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Bromoform	ND		5.0	1.1	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Bromomethane	ND *		5.0	0.74	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Chloroform	ND *		5.0	0.30	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
cis-1,3-Dichloropropene	ND *		5.0	0.37	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Dibromochloromethane	ND		5.0	0.57	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Dibromomethane	ND *		5.0	0.59	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Hexachlorobutadiene	ND		5.0	0.66	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
<b>Naphthalene</b>	<b>1.7 JB</b>		5.0	0.91	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Tetrachloroethene	ND		5.0	0.63	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
trans-1,3-Dichloropropene	ND *		5.0	0.34	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Trichloroethene	ND *		5.0	0.43	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Vinyl chloride	ND *		20	2.4	ug/Kg	09/01/19 13:41	09/02/19 05:01		1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		81 - 121				09/01/19 13:41	09/02/19 05:01	1
4-Bromofluorobenzene (Surr)	112		79 - 120				09/01/19 13:41	09/02/19 05:01	1
Dibromofluoromethane (Surr)	110		78 - 118				09/01/19 13:41	09/02/19 05:01	1
Toluene-d8 (Surr)	98		79 - 119				09/01/19 13:41	09/02/19 05:01	1
Trifluorotoluene (Surr)	117		52 - 152				09/01/19 13:41	09/02/19 05:01	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,1-Dichloroethane	ND		40	9.2	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,1-Dichloropropene	ND		40	5.3	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
<b>1,2,3-Trichlorobenzene</b>	<b>62 JB</b>		150	32	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,2,3-Trichloropropane	ND		40	12	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
<b>1,2,4-Trichlorobenzene</b>	<b>35 JB</b>		60	15	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
<b>1,2-Dibromo-3-Chloropropane</b>	<b>16 JB</b>		250	15	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,2-Dichloropropane	ND		20	6.6	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
<b>1,3,5-Trimethylbenzene</b>	<b>7.7 JB</b>		40	7.6	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,3-Dichlorobenzene	ND		60	13	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
1,3-Dichloropropane	ND		60	14	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
2,2-Dichloropropane	ND		40	12	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
2-Butanone	ND		600	190	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
2-Chlorotoluene	ND		40	8.8	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
4-Chlorotoluene	ND		40	9.8	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
<b>4-Isopropyltoluene</b>	<b>13 JB</b>		40	10	ug/Kg	08/30/19 20:41	08/31/19 10:11		1
4-Methyl-2-pentanone	ND *		400	81	ug/Kg	08/30/19 20:41	08/31/19 10:11		1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-88695-10**

Date Collected: 08/20/19 00:01

Matrix: Solid

Date Received: 08/26/19 12:25

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>280</b>	<b>J B</b>	800	170	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Bromobenzene	ND		100	17	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Bromoform	ND		40	6.2	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Carbon disulfide	ND		60	12	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Chlorobenzene	ND		40	4.8	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Chloroethane	ND		400	10	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Chloromethane	ND		100	10	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Dichlorodifluoromethane	ND		200	46	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Ethylbenzene	ND		40	9.1	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Isopropylbenzene	ND		40	8.6	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Methylene Chloride	ND		250	65	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
<b>n-Butylbenzene</b>	<b>19</b>	<b>J</b>	150	8.0	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
N-Propylbenzene	ND		40	6.9	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
o-Xylene	ND		60	13	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
<b>sec-Butylbenzene</b>	<b>11</b>	<b>J</b>	40	8.6	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Styrene	ND		40	6.1	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
t-Butylbenzene	ND		40	7.7	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Toluene	ND		150	14	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
Trichlorofluoromethane	ND		200	11	ug/Kg		08/30/19 20:41	08/31/19 10:11	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	99			80 - 121			08/30/19 20:41	08/31/19 10:11	1
4-Bromofluorobenzene (Surr)	96			80 - 120			08/30/19 20:41	08/31/19 10:11	1
Dibromofluoromethane (Surr)	95			80 - 120			08/30/19 20:41	08/31/19 10:11	1
Toluene-d8 (Surr)	114			80 - 120			08/30/19 20:41	08/31/19 10:11	1
Trifluorotoluene (Surr)	114			80 - 120			08/30/19 20:41	08/31/19 10:11	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**  
Date Collected: 08/20/19 16:15  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-11**  
Matrix: Solid  
Percent Solids: 84.7

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		6.0	0.34	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,1,2,2-Tetrachloroethane	ND		12	1.6	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,1,2-Trichloroethane	ND *		6.0	0.55	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,1-Dichloroethene	ND *		6.0	0.74	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,2-Dibromoethane	ND		6.0	0.54	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,2-Dichloroethane	ND *		6.0	0.75	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
1,4-Dichlorobenzene	ND		6.0	0.38	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Benzene	ND *		6.0	0.50	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Bromodichloromethane	ND *		6.0	0.38	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Bromoform	ND		6.0	1.4	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Bromomethane	ND *		6.0	0.89	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Chloroform	ND *		6.0	0.36	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
cis-1,3-Dichloropropene	ND *		6.0	0.44	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Dibromochloromethane	ND		6.0	0.68	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Dibromomethane	ND *		6.0	0.71	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Hexachlorobutadiene	ND		6.0	0.79	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
<b>Naphthalene</b>	<b>3.0 JB</b>		6.0	1.1	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Tetrachloroethene	ND		6.0	0.75	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
trans-1,3-Dichloropropene	ND *		6.0	0.41	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Trichloroethene	ND *		6.0	0.51	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
Vinyl chloride	ND *		24	2.8	ug/Kg	✉	09/01/19 13:41	09/02/19 08:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	84			81 - 121			09/01/19 13:41	09/02/19 08:29	1
4-Bromofluorobenzene (Surr)	103			79 - 120			09/01/19 13:41	09/02/19 08:29	1
Dibromofluoromethane (Surr)	98			78 - 118			09/01/19 13:41	09/02/19 08:29	1
Toluene-d8 (Surr)	122 X			79 - 119			09/01/19 13:41	09/02/19 08:29	1
Trifluorotoluene (Surr)	107			52 - 152			09/01/19 13:41	09/02/19 08:29	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		55	13	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,1-Dichloroethane	ND		55	13	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,1-Dichloropropene	ND		55	7.2	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2,3-Trichlorobenzene	ND		200	44	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2,3-Trichloropropane	ND		55	16	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2,4-Trichlorobenzene	ND		82	21	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>1,2,4-Trimethylbenzene</b>	<b>6200</b>		55	18	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2-Dibromo-3-Chloropropane	ND		340	21	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2-Dichlorobenzene	ND		55	12	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,2-Dichloropropane	ND		27	9.0	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>1,3,5-Trimethylbenzene</b>	<b>1500</b>		55	10	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,3-Dichlorobenzene	ND		82	18	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
1,3-Dichloropropane	ND		82	19	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
2,2-Dichloropropane	ND		55	17	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
2-Butanone	ND		820	250	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
2-Chlorotoluene	ND		55	12	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
4-Chlorotoluene	ND		55	13	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>4-Isopropyltoluene</b>	<b>560</b>		55	14	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
4-Methyl-2-pentanone	ND *		550	110	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**  
**Date Collected: 08/20/19 16:15**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-11**  
**Matrix: Solid**  
**Percent Solids: 84.7**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>460</b>	<b>J B</b>	1100	240	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Bromobenzene	ND		140	23	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Bromoform	ND		55	8.5	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Carbon disulfide	ND		82	17	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Carbon tetrachloride	ND		27	11	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Chlorobenzene	ND		55	6.6	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Chloroethane	ND		550	14	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Chloromethane	ND		140	14	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
cis-1,2-Dichloroethene	ND		82	17	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Dichlorodifluoromethane	ND		270	63	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>Ethylbenzene</b>	<b>96</b>		55	12	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>Isopropylbenzene</b>	<b>130</b>		55	12	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Methyl tert-butyl ether	ND		55	8.2	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Methylene Chloride	ND		340	88	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>m-Xylene &amp; p-Xylene</b>	<b>830</b>		270	20	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>n-Butylbenzene</b>	<b>9300</b>	<b>E</b>	200	11	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
n-Butylbenzene	ND	H	1900	100	ug/Kg	✉	09/11/19 08:00	09/12/19 06:22	1
<b>N-Propylbenzene</b>	<b>310</b>		55	9.4	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
<b>o-Xylene</b>	<b>430</b>		82	18	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
sec-Butylbenzene	ND		55	12	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Styrene	ND		55	8.3	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
t-Butylbenzene	ND		55	11	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Toluene	ND		200	18	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
trans-1,2-Dichloroethene	ND		82	20	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1
Trichlorofluoromethane	ND		270	16	ug/Kg	✉	08/30/19 20:41	08/31/19 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 121	08/30/19 20:41	08/31/19 15:58	1
1,2-Dichloroethane-d4 (Surr)	104		80 - 121	09/11/19 08:00	09/12/19 06:22	1
4-Bromofluorobenzene (Surr)	95		80 - 120	08/30/19 20:41	08/31/19 15:58	1
4-Bromofluorobenzene (Surr)	99		80 - 120	09/11/19 08:00	09/12/19 06:22	1
Dibromofluoromethane (Surr)	96		80 - 120	08/30/19 20:41	08/31/19 15:58	1
Dibromofluoromethane (Surr)	100		80 - 120	09/11/19 08:00	09/12/19 06:22	1
Toluene-d8 (Surr)	116		80 - 120	08/30/19 20:41	08/31/19 15:58	1
Toluene-d8 (Surr)	108		80 - 120	09/11/19 08:00	09/12/19 06:22	1
Trifluorotoluene (Surr)	113		80 - 120	08/30/19 20:41	08/31/19 15:58	1
Trifluorotoluene (Surr)	97		80 - 120	09/11/19 08:00	09/12/19 06:22	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		12	4.8	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
2,4-Dinitrophenol	ND	F2	170	35	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
2,4-Dinitrotoluene	ND		23	4.6	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
2,6-Dinitrotoluene	ND		12	3.6	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
3,3'-Dichlorobenzidine	ND	F1	12	5.1	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
4-Chloroaniline	ND	F1	170	56	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Bis(2-chloroethyl)ether	ND		12	3.6	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Hexachlorobenzene	ND		12	4.3	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Hexachlorobutadiene	ND		12	2.3	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Hexachlorocyclopentadiene	ND		12	4.1	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**

**Lab Sample ID: 580-88695-11**

Date Collected: 08/20/19 16:15  
Date Received: 08/26/19 12:25

Matrix: Solid

Percent Solids: 84.7

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	ND		12	3.5	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Nitrobenzene	ND		12	3.6	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
N-Nitrosodimethylamine	ND		23	5.4	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
N-Nitrosodi-n-propylamine	ND		12	4.3	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
Pentachlorophenol	ND		350	110	ug/Kg	✉	09/03/19 09:39	09/04/19 12:45	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	74		28 - 143				09/03/19 09:39	09/04/19 12:45	1
2-Fluorobiphenyl	93		42 - 140				09/03/19 09:39	09/04/19 12:45	1
Nitrobenzene-d5	88		38 - 141				09/03/19 09:39	09/04/19 12:45	1
Terphenyl-d14	95		68 - 138				09/03/19 09:39	09/04/19 12:45	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		58	7.0	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
1,2-Dichlorobenzene	ND		58	14	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
1,3-Dichlorobenzene	ND		58	5.6	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
1,4-Dichlorobenzene	ND		58	9.7	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
1-Methylnaphthalene	ND		35	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2,4,5-Trichlorophenol	ND		230	52	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2,4-Dichlorophenol	ND		120	17	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2,4-Dimethylphenol	ND		120	17	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Chloronaphthalene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Chlorophenol	ND		230	15	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Methylnaphthalene	ND		58	10	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Methylphenol	ND		170	11	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Nitroaniline	ND		120	17	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
2-Nitrophenol	ND		230	24	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
3 & 4 Methylphenol	ND		230	17	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
3-Nitroaniline	ND		230	47	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4,6-Dinitro-2-methylphenol	ND	F2	1200	120	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4-Bromophenyl phenyl ether	ND		230	11	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4-Chloro-3-methylphenol	ND		170	38	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4-Chlorophenyl phenyl ether	ND		230	7.3	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4-Nitroaniline	ND	F2	170	58	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
4-Nitrophenol	ND		1700	430	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Acenaphthene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Acenaphthylene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Anthracene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzo[a]anthracene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzo[a]pyrene	ND		70	15	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzo[b]fluoranthene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzo[g,h,i]perylene	ND		70	10	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzo[k]fluoranthene	ND		70	16	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzoic acid	ND	F1	2300	680	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Benzyl alcohol	ND	F1 *	580	90	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Bis(2-chloroethoxy)methane	ND		230	21	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Bis(2-ethylhexyl) phthalate	ND		700	83	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
bis(chloroisopropyl) ether	ND		230	16	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
<b>Butyl benzyl phthalate</b>	<b>66</b>	<b>J B</b>	230	59	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**  
Date Collected: 08/20/19 16:15  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-11**  
Matrix: Solid  
Percent Solids: 84.7

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbazole	ND	F1 *	170	9.6	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Chrysene	ND		70	15	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Dibenz(a,h)anthracene	ND		58	14	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Dibenzofuran	ND		170	6.9	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Diethyl phthalate	ND		1700	89	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Dimethyl phthalate	ND		170	15	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Di-n-butyl phthalate	ND		580	66	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Di-n-octyl phthalate	ND		170	66	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Fluoranthene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Fluorene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Indeno[1,2,3-cd]pyrene	ND		47	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Isophorone	ND		170	8.6	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Naphthalene	ND		29	5.8	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
N-Nitrosodiphenylamine	ND		70	9.3	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Phenanthrene	ND		70	14	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Phenol	ND		170	27	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
Pyrene	ND		70	7.5	ug/Kg	✉	09/03/19 09:39	09/05/19 16:48	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol (Surr)	92		52 - 125				09/03/19 09:39	09/05/19 16:48	1
2-Fluorobiphenyl	96		57 - 120				09/03/19 09:39	09/05/19 16:48	1
2-Fluorophenol (Surr)	102		60 - 125				09/03/19 09:39	09/05/19 16:48	1
Nitrobenzene-d5 (Surr)	105		62 - 120				09/03/19 09:39	09/05/19 16:48	1
Phenol-d5 (Surr)	96		59 - 120				09/03/19 09:39	09/05/19 16:48	1
Terphenyl-d14 (Surr)	102		58 - 120				09/03/19 09:39	09/05/19 16:48	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.34	0.075	ug/Kg	✉	09/03/19 12:34	09/06/19 18:09	1
Ethylene Dibromide	ND		0.057	0.014	ug/Kg	✉	09/03/19 12:34	09/06/19 18:09	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dibromopropane	60		60 - 140				09/03/19 12:34	09/06/19 18:09	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	12		12	3.9	mg/Kg	✉	09/03/19 11:22	09/04/19 00:02	1
Residual Range Organics (RRO) (C25-C36)	99		23	5.8	mg/Kg	✉	09/03/19 11:22	09/04/19 00:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
o-Terphenyl	88		50 - 150				09/03/19 11:22	09/04/19 00:02	1
n-Triaccontane-d62	97		50 - 150				09/03/19 11:22	09/04/19 00:02	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16	B	0.22	0.045	mg/Kg	✉	09/06/19 10:17	09/10/19 18:42	5
Barium	150		0.45	0.10	mg/Kg	✉	09/06/19 10:17	09/10/19 18:42	5
Cadmium	0.25		0.18	0.035	mg/Kg	✉	09/06/19 10:17	09/10/19 18:42	5
Chromium	40	B	0.22	0.028	mg/Kg	✉	09/06/19 10:17	09/10/19 18:42	5

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# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**

**Lab Sample ID: 580-88695-11**

Date Collected: 08/20/19 16:15  
 Date Received: 08/26/19 12:25

Matrix: Solid

Percent Solids: 84.7

**Method: 6020A - Metals (ICP/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	13		0.22	0.022	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:42	5
Selenium	0.86	B	0.49	0.13	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:42	5
Silver	0.14		0.090	0.0090	mg/Kg	⊗	09/06/19 10:17	09/10/19 18:42	5

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.065		0.028	0.0085	mg/Kg	⊗	09/09/19 10:05	09/09/19 15:16	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.7		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	15.3		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**  
Date Collected: 08/20/19 15:28  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-12**  
Matrix: Solid  
Percent Solids: 78.0

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		7.3	0.41	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,1,2,2-Tetrachloroethane	ND		15	2.0	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,1,2-Trichloroethane	ND *		7.3	0.67	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,1-Dichloroethene	ND *		7.3	0.90	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,2-Dibromoethane	ND		7.3	0.65	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,2-Dichloroethane	ND *		7.3	0.92	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
1,4-Dichlorobenzene	ND		7.3	0.47	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Benzene	ND *		7.3	0.61	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Bromodichloromethane	ND *		7.3	0.46	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Bromoform	ND		7.3	1.6	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Bromomethane	ND *		7.3	1.1	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Chloroform	ND *		7.3	0.44	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
cis-1,3-Dichloropropene	ND *		7.3	0.54	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Dibromochloromethane	ND		7.3	0.83	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Dibromomethane	ND *		7.3	0.86	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Hexachlorobutadiene	ND		7.3	0.96	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
<b>Naphthalene</b>	<b>21 B</b>		7.3	1.3	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Tetrachloroethene	ND		7.3	0.92	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
trans-1,3-Dichloropropene	ND *		7.3	0.49	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Trichloroethene	ND *		7.3	0.62	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
Vinyl chloride	ND *		29	3.4	ug/Kg	✉	09/01/19 13:41	09/02/19 08:56	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	122	X		81 - 121			09/01/19 13:41	09/02/19 08:56	1
4-Bromofluorobenzene (Surr)	91			79 - 120			09/01/19 13:41	09/02/19 08:56	1
Dibromofluoromethane (Surr)	124	X		78 - 118			09/01/19 13:41	09/02/19 08:56	1
Toluene-d8 (Surr)	96			79 - 119			09/01/19 13:41	09/02/19 08:56	1
Trifluorotoluene (Surr)	110			52 - 152			09/01/19 13:41	09/02/19 08:56	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		59	14	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,1-Dichloroethane	ND		59	13	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,1-Dichloropropene	ND		59	7.8	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2,3-Trichlorobenzene	ND		220	47	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2,3-Trichloropropane	ND		59	17	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2,4-Trichlorobenzene	ND		88	23	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
<b>1,2,4-Trimethylbenzene</b>	<b>660</b>		59	20	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2-Dibromo-3-Chloropropane	ND		370	22	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2-Dichlorobenzene	ND		59	13	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,2-Dichloropropane	ND		29	9.7	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
<b>1,3,5-Trimethylbenzene</b>	<b>190</b>		59	11	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,3-Dichlorobenzene	ND		88	19	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
1,3-Dichloropropane	ND		88	20	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
2,2-Dichloropropane	ND		59	18	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
2-Butanone	ND		880	270	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
2-Chlorotoluene	ND		59	13	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
4-Chlorotoluene	ND		59	14	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
<b>4-Isopropyltoluene</b>	<b>62</b>		59	15	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1
4-Methyl-2-pentanone	ND *		590	120	ug/Kg	✉	08/30/19 20:41	08/31/19 16:23	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**  
Date Collected: 08/20/19 15:28  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-12**  
Matrix: Solid  
Percent Solids: 78.0

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>580</b>	<b>J B</b>	1200	250	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Bromobenzene	ND		150	25	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Bromochloromethane	ND		59	9.1	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Carbon disulfide	ND		88	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Carbon tetrachloride	ND		29	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Chlorobenzene	ND		59	7.0	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Chloroethane	ND		590	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Chloromethane	ND		150	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
cis-1,2-Dichloroethene	ND		88	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Dichlorodifluoromethane	ND		290	67	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>Ethylbenzene</b>	<b>20</b>	<b>J</b>	59	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>Isopropylbenzene</b>	<b>18</b>	<b>J</b>	59	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Methyl tert-butyl ether	ND		59	8.8	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Methylene Chloride	ND		370	95	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>m-Xylene &amp; p-Xylene</b>	<b>130</b>	<b>J</b>	290	22	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>N-Propylbenzene</b>	<b>44</b>	<b>J</b>	59	10	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>o-Xylene</b>	<b>56</b>	<b>J</b>	88	20	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
<b>sec-Butylbenzene</b>	<b>48</b>	<b>J</b>	59	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Styrene	ND		59	8.9	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
t-Butylbenzene	ND		59	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Toluene	ND		220	20	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
trans-1,2-Dichloroethene	ND		88	21	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1
Trichlorofluoromethane	ND		290	17	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 121	08/30/19 20:41	08/31/19 16:23	1
4-Bromofluorobenzene (Surr)	98		80 - 120	08/30/19 20:41	08/31/19 16:23	1
Dibromofluoromethane (Surr)	93		80 - 120	08/30/19 20:41	08/31/19 16:23	1
Toluene-d8 (Surr)	106		80 - 120	08/30/19 20:41	08/31/19 16:23	1
Trifluorotoluene (Surr)	113		80 - 120	08/30/19 20:41	08/31/19 16:23	1

## Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND	H	220	12	ug/Kg	⊗	09/11/19 08:00	09/12/19 06:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	105		80 - 121				09/11/19 08:00	09/12/19 06:47	1
4-Bromofluorobenzene (Surr)	102		80 - 120				09/11/19 08:00	09/12/19 06:47	1
Dibromofluoromethane (Surr)	100		80 - 120				09/11/19 08:00	09/12/19 06:47	1
Toluene-d8 (Surr)	107		80 - 120				09/11/19 08:00	09/12/19 06:47	1
Trifluorotoluene (Surr)	114		80 - 120				09/11/19 08:00	09/12/19 06:47	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		12	5.0	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
2,4-Dinitrophenol	ND		180	36	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
2,4-Dinitrotoluene	ND		24	4.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
2,6-Dinitrotoluene	ND		12	3.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
3,3'-Dichlorobenzidine	ND		12	5.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
4-Chloroaniline	ND		180	58	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**  
Date Collected: 08/20/19 15:28  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-12**  
Matrix: Solid  
Percent Solids: 78.0

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		12	3.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
Hexachlorobenzene	ND		12	4.4	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
Hexachlorobutadiene	ND		12	2.3	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
Hexachlorocyclopentadiene	ND		12	4.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
Hexachloroethane	ND		12	3.6	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
Nitrobenzene	ND		12	3.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
N-Nitrosodimethylamine	ND		24	5.5	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
N-Nitrosodi-n-propylamine	ND		12	4.4	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
<b>Pentachlorophenol</b>	<b>110 J</b>		360	110	ug/Kg	⊗	09/03/19 09:39	09/04/19 13:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	74			28 - 143			09/03/19 09:39	09/04/19 13:54	1
2-Fluorobiphenyl	88			42 - 140			09/03/19 09:39	09/04/19 13:54	1
Nitrobenzene-d5	85			38 - 141			09/03/19 09:39	09/04/19 13:54	1
Terphenyl-d14	90			68 - 138			09/03/19 09:39	09/04/19 13:54	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		60	7.2	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
1,2-Dichlorobenzene	ND		60	14	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
1,3-Dichlorobenzene	ND		60	5.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
1,4-Dichlorobenzene	ND		60	10	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>1-Methylnaphthalene</b>	<b>7.2 J</b>		36	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2,4,5-Trichlorophenol	ND		240	54	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2,4-Dichlorophenol	ND		120	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2,4-Dimethylphenol	ND		120	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2-Chloronaphthalene	ND		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2-Chlorophenol	ND		240	16	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>2-Methylnaphthalene</b>	<b>13 J</b>		60	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2-Methylphenol	ND		180	12	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2-Nitroaniline	ND		120	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
2-Nitrophenol	ND		240	25	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
3 & 4 Methylphenol	ND		240	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
3-Nitroaniline	ND		240	48	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4,6-Dinitro-2-methylphenol	ND		1200	120	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4-Bromophenyl phenyl ether	ND		240	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4-Chloro-3-methylphenol	ND		180	40	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4-Chlorophenyl phenyl ether	ND		240	7.6	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4-Nitroaniline	ND		180	60	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
4-Nitrophenol	ND		1800	440	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
Acenaphthene	ND		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>Acenaphthylene</b>	<b>7.6 J</b>		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>Anthracene</b>	<b>18 J</b>		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>Benzo[a]anthracene</b>	<b>9.3 J</b>		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
Benzo[a]pyrene	ND		72	16	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>Benzo[b]fluoranthene</b>	<b>23 J</b>		30	6.0	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
Benzo[g,h,i]perylene	ND		72	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
Benzo[k]fluoranthene	ND		72	17	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
<b>Benzoic acid</b>	<b>970 J</b>		2400	700	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1
Benzyl alcohol	ND *		600	93	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:00	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**  
Date Collected: 08/20/19 15:28  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-12**  
Matrix: Solid  
Percent Solids: 78.0

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		240	22	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>160</b>	<b>J</b>	720	85	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
bis(chloroisopropyl) ether	ND		240	17	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Butyl benzyl phthalate</b>	<b>110</b>	<b>J B</b>	240	61	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Carbazole	ND *		180	9.9	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Chrysene</b>	<b>32</b>	<b>J</b>	72	16	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Dibenz(a,h)anthracene	ND		60	14	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Dibenzofuran	ND		180	7.1	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Diethyl phthalate	ND		1800	91	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Dimethyl phthalate	ND		180	16	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Di-n-butyl phthalate	ND		600	68	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Di-n-octyl phthalate	ND		180	68	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Fluoranthene</b>	<b>44</b>		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Fluorene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Indeno[1,2,3-cd]pyrene	ND		48	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Isophorone	ND		180	8.9	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Naphthalene</b>	<b>7.3</b>	<b>J</b>	30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
N-Nitrosodiphenylamine	ND		72	9.6	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Phenanthrene</b>	<b>14</b>	<b>J</b>	72	14	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
Phenol	ND		180	28	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Pyrene</b>	<b>29</b>	<b>J</b>	72	7.7	ug/Kg	✉	09/03/19 09:39	09/05/19 18:00	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>			<b>Limits</b>				
2,4,6-Tribromophenol (Surr)	87				52 - 125				
2-Fluorobiphenyl	84				57 - 120				
2-Fluorophenol (Surr)	98				60 - 125				
Nitrobenzene-d5 (Surr)	101				62 - 120				
Phenol-d5 (Surr)	96				59 - 120				
Terphenyl-d14 (Surr)	96				58 - 120				
							<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1
							09/03/19 09:39	09/05/19 18:00	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.38	0.083	ug/Kg	✉	09/03/19 12:34	09/06/19 18:25	1
Ethylene Dibromide	ND		0.063	0.015	ug/Kg	✉	09/03/19 12:34	09/06/19 18:25	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>			<b>Limits</b>				
1,2-Dibromopropane	35	X			60 - 140				
							<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
							09/03/19 12:34	09/06/19 18:25	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1221	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1232	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1242	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1248	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
<b>PCB-1254</b>	<b>17</b>		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1260	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1268	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1
PCB-1262	ND		12	2.7	ug/Kg	✉	09/06/19 08:42	09/09/19 15:00	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**

**Lab Sample ID: 580-88695-12**

Date Collected: 08/20/19 15:28  
Date Received: 08/26/19 12:25

Matrix: Solid

Percent Solids: 78.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	48	p	31 - 142	09/06/19 08:42	09/09/19 15:00	1
DCB Decachlorobiphenyl (Surr)	97		20 - 150	09/06/19 08:42	09/09/19 15:00	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	180		13	4.3	mg/Kg	⌚	09/03/19 11:22	09/04/19 00:21	1
Residual Range Organics (RRO) (C25-C36)	1000		25	6.3	mg/Kg	⌚	09/03/19 11:22	09/04/19 00:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	94		50 - 150				09/03/19 11:22	09/04/19 00:21	1
<i>n</i> -Triaccontane-d62	96		50 - 150				09/03/19 11:22	09/04/19 00:21	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		0.21	0.041	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Barium	180		0.41	0.094	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Cadmium	1.1		0.17	0.032	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Chromium	24		0.21	0.026	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Lead	110	B	0.21	0.020	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Selenium	1.2		0.46	0.12	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:05	5
Silver	0.22		0.083	0.0083	mg/Kg	⌚	09/06/19 13:00	09/11/19 19:32	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.031	0.0093	mg/Kg	⌚	09/09/19 10:05	09/09/19 15:28	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	78.0		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	22.0		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**  
Date Collected: 08/20/19 15:38  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-13**  
Matrix: Solid  
Percent Solids: 70.6

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H	9.5	0.53	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,1,2,2-Tetrachloroethane	ND	H	19	2.6	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,1,2-Trichloroethane	ND	H	9.5	0.87	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,1-Dichloroethene	ND	H	9.5	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,2-Dibromoethane	ND	H	9.5	0.85	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,2-Dichloroethane	ND	H *	9.5	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
1,4-Dichlorobenzene	ND	H	9.5	0.61	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Benzene	ND	H	9.5	0.79	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Bromodichloromethane	ND	H	9.5	0.60	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Bromoform	ND	H *	9.5	2.1	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Bromomethane	ND	H	9.5	1.4	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Chloroform	ND	H	9.5	0.57	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
cis-1,3-Dichloropropene	ND	H	9.5	0.70	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Dibromochloromethane	ND	H	9.5	1.1	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Dibromomethane	ND	H	9.5	1.1	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Hexachlorobutadiene	ND	H	9.5	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
<b>Naphthalene</b>	<b>2.5</b>	<b>J H</b>	9.5	1.7	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Tetrachloroethene	ND	H	9.5	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
trans-1,3-Dichloropropene	ND	H	9.5	0.64	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Trichloroethene	ND	H	9.5	0.81	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1
Vinyl chloride	ND	H *	38	4.5	ug/Kg	✉	09/03/19 17:49	09/04/19 14:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	136	X	81 - 121	09/03/19 17:49	09/04/19 14:08	1
4-Bromofluorobenzene (Surr)	113		79 - 120	09/03/19 17:49	09/04/19 14:08	1
Dibromofluoromethane (Surr)	116		78 - 118	09/03/19 17:49	09/04/19 14:08	1
Toluene-d8 (Surr)	99		79 - 119	09/03/19 17:49	09/04/19 14:08	1
Trifluorotoluene (Surr)	96		52 - 152	09/03/19 17:49	09/04/19 14:08	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		76	18	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,1-Dichloroethane	ND		76	17	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,1-Dichloropropene	ND		76	10	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2,3-Trichlorobenzene	ND		280	61	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2,3-Trichloropropane	ND		76	22	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2,4-Trichlorobenzene	ND		110	29	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
<b>1,2,4-Trimethylbenzene</b>	<b>390</b>		76	26	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2-Dibromo-3-Chloropropane	ND		470	29	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2-Dichlorobenzene	ND		76	16	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,2-Dichloropropane	ND		38	12	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
<b>1,3,5-Trimethylbenzene</b>	<b>120</b>		76	14	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,3-Dichlorobenzene	ND		110	25	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
1,3-Dichloropropane	ND		110	26	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
2,2-Dichloropropane	ND		76	23	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
2-Butanone	ND		1100	350	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
2-Chlorotoluene	ND		76	17	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
4-Chlorotoluene	ND		76	19	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
<b>4-Isopropyltoluene</b>	<b>38</b>	<b>J</b>	76	19	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1
4-Methyl-2-pentanone	ND	*	760	150	ug/Kg	✉	08/30/19 20:41	08/31/19 16:48	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**  
Date Collected: 08/20/19 15:38  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-13**  
Matrix: Solid  
Percent Solids: 70.6

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>730</b>	<b>J B</b>	1500	330	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Bromobenzene	ND		190	32	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Bromochloromethane	ND		76	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Carbon disulfide	ND		110	23	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Carbon tetrachloride	ND		38	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Chlorobenzene	ND		76	9.1	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Chloroethane	ND		760	19	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Chloromethane	ND		190	19	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
cis-1,2-Dichloroethene	ND		110	24	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Dichlorodifluoromethane	ND		380	87	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
<b>Ethylbenzene</b>	<b>17</b>	<b>J</b>	76	17	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Isopropylbenzene	ND		76	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Methyl tert-butyl ether	ND		76	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Methylene Chloride	ND		470	120	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
<b>m-Xylene &amp; p-Xylene</b>	<b>110</b>	<b>J</b>	380	28	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
<b>N-Propylbenzene</b>	<b>31</b>	<b>J</b>	76	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
<b>o-Xylene</b>	<b>40</b>	<b>J</b>	110	25	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
<b>sec-Butylbenzene</b>	<b>31</b>	<b>J</b>	76	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Styrene	ND		76	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
t-Butylbenzene	ND		76	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Toluene	ND		280	26	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
trans-1,2-Dichloroethene	ND		110	28	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1
Trichlorofluoromethane	ND		380	22	ug/Kg	⊗	08/30/19 20:41	08/31/19 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 121	08/30/19 20:41	08/31/19 16:48	1
4-Bromofluorobenzene (Surr)	100		80 - 120	08/30/19 20:41	08/31/19 16:48	1
Dibromofluoromethane (Surr)	99		80 - 120	08/30/19 20:41	08/31/19 16:48	1
Toluene-d8 (Surr)	107		80 - 120	08/30/19 20:41	08/31/19 16:48	1
Trifluorotoluene (Surr)	109		80 - 120	08/30/19 20:41	08/31/19 16:48	1

## Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND	H	280	15	ug/Kg	⊗	09/11/19 08:00	09/12/19 07:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	95		80 - 121				09/11/19 08:00	09/12/19 07:12	1
4-Bromofluorobenzene (Surr)	98		80 - 120				09/11/19 08:00	09/12/19 07:12	1
Dibromofluoromethane (Surr)	100		80 - 120				09/11/19 08:00	09/12/19 07:12	1
Toluene-d8 (Surr)	106		80 - 120				09/11/19 08:00	09/12/19 07:12	1
Trifluorotoluene (Surr)	96		80 - 120				09/11/19 08:00	09/12/19 07:12	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		14	5.6	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1
2,4-Dinitrophenol	ND		200	41	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1
2,4-Dinitrotoluene	ND		27	5.4	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1
2,6-Dinitrotoluene	ND		14	4.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1
3,3'-Dichlorobenzidine	ND		14	5.9	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1
4-Chloroaniline	ND		200	66	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:17	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**  
Date Collected: 08/20/19 15:38  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-13**  
Matrix: Solid  
Percent Solids: 70.6

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		14	4.2	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Hexachlorobenzene	ND		14	5.0	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Hexachlorobutadiene	ND		14	2.7	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Hexachlorocyclopentadiene	ND		14	4.8	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Hexachloroethane	ND		14	4.1	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Nitrobenzene	ND		14	4.2	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
N-Nitrosodimethylamine	ND		27	6.3	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
N-Nitrosodi-n-propylamine	ND		14	5.0	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
Pentachlorophenol	ND		410	120	ug/Kg	⌚	09/03/19 09:39	09/04/19 14:17	1
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol		85		28 - 143			09/03/19 09:39	09/04/19 14:17	1
2-Fluorobiphenyl		94		42 - 140			09/03/19 09:39	09/04/19 14:17	1
Nitrobenzene-d5		85		38 - 141			09/03/19 09:39	09/04/19 14:17	1
Terphenyl-d14		103		68 - 138			09/03/19 09:39	09/04/19 14:17	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		68	8.2	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
1,2-Dichlorobenzene	ND		68	16	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
1,3-Dichlorobenzene	ND		68	6.6	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
1,4-Dichlorobenzene	ND		68	11	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
1-Methylnaphthalene	ND		41	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2,4,5-Trichlorophenol	ND		270	61	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2,4-Dichlorophenol	ND		140	20	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2,4-Dimethylphenol	ND		140	20	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Chloronaphthalene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Chlorophenol	ND		270	18	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Methylnaphthalene	ND		68	12	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Methylphenol	ND		200	13	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Nitroaniline	ND		140	20	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
2-Nitrophenol	ND		270	29	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
3 & 4 Methylphenol	ND		270	20	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
3-Nitroaniline	ND		270	55	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4,6-Dinitro-2-methylphenol	ND		1400	140	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4-Bromophenyl phenyl ether	ND		270	12	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4-Chloro-3-methylphenol	ND		200	45	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4-Chlorophenyl phenyl ether	ND		270	8.6	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4-Nitroaniline	ND		200	68	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
4-Nitrophenol	ND		2000	500	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Acenaphthene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Acenaphthylene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Anthracene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzo[a]anthracene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzo[a]pyrene	ND		82	18	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzo[b]fluoranthene	ND		34	6.8	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzo[g,h,i]perylene	ND		82	12	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzo[k]fluoranthene	ND		82	19	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
<b>Benzoic acid</b>	<b>1100 J</b>		2700	790	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1
Benzyl alcohol	ND *		680	110	ug/Kg	⌚	09/03/19 09:39	09/05/19 18:23	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**  
Date Collected: 08/20/19 15:38  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-13**  
Matrix: Solid  
Percent Solids: 70.6

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		270	25	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Bis(2-ethylhexyl) phthalate	ND		820	97	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
bis(chloroisopropyl) ether	ND		270	19	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Butyl benzyl phthalate	ND		270	70	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Carbazole	ND *		200	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Chrysene	ND		82	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Dibenz(a,h)anthracene	ND		68	16	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Dibenzofuran	ND		200	8.1	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Diethyl phthalate	ND		2000	100	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Dimethyl phthalate	ND		200	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
<b>Di-n-butyl phthalate</b>	<b>82 J</b>		680	78	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Di-n-octyl phthalate	ND		200	78	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Fluoranthene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Fluorene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Indeno[1,2,3-cd]pyrene	ND		55	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Isophorone	ND		200	10	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Naphthalene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
N-Nitrosodiphenylamine	ND		82	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Phenanthrene	ND		82	16	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Phenol	ND		200	31	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
Pyrene	ND		82	8.7	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:23	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol (Surr)	98		52 - 125				09/03/19 09:39	09/05/19 18:23	1
2-Fluorobiphenyl	91		57 - 120				09/03/19 09:39	09/05/19 18:23	1
2-Fluorophenol (Surr)	96		60 - 125				09/03/19 09:39	09/05/19 18:23	1
Nitrobenzene-d5 (Surr)	100		62 - 120				09/03/19 09:39	09/05/19 18:23	1
Phenol-d5 (Surr)	90		59 - 120				09/03/19 09:39	09/05/19 18:23	1
Terphenyl-d14 (Surr)	99		58 - 120				09/03/19 09:39	09/05/19 18:23	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.39	0.086	ug/Kg	⊗	09/03/19 12:34	09/06/19 18:41	1
Ethylene Dibromide	ND		0.065	0.016	ug/Kg	⊗	09/03/19 12:34	09/06/19 18:41	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dibromopropane	39	X	60 - 140				09/03/19 12:34	09/06/19 18:41	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1221	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1232	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1242	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1248	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
<b>PCB-1254</b>	<b>13 J</b>		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1260	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1268	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1
PCB-1262	ND		14	3.0	ug/Kg	⊗	09/06/19 08:42	09/09/19 15:20	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**

**Lab Sample ID: 580-88695-13**

Date Collected: 08/20/19 15:38  
Date Received: 08/26/19 12:25

Matrix: Solid

Percent Solids: 70.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	47	p	31 - 142	09/06/19 08:42	09/09/19 15:20	1
DCB Decachlorobiphenyl (Surr)	95		20 - 150	09/06/19 08:42	09/09/19 15:20	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	47		14	4.7	mg/Kg	⌚	09/03/19 11:22	09/04/19 00:41	1
Residual Range Organics (RRO) (C25-C36)	350		28	6.9	mg/Kg	⌚	09/03/19 11:22	09/04/19 00:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	93		50 - 150				09/03/19 11:22	09/04/19 00:41	1
<i>n</i> -Triaccontane-d62	102		50 - 150				09/03/19 11:22	09/04/19 00:41	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20		0.23	0.046	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Barium	190		0.46	0.11	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Cadmium	0.76		0.19	0.036	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Chromium	27		0.23	0.029	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Lead	28	B	0.23	0.022	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Selenium	1.7		0.51	0.13	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:10	5
Silver	0.20		0.093	0.0093	mg/Kg	⌚	09/06/19 13:00	09/11/19 19:36	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.035	0.010	mg/Kg	⌚	09/09/19 10:05	09/09/19 15:31	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.6		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	29.4		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-04-SO**  
Date Collected: 08/20/19 15:43  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-14**  
Matrix: Solid  
Percent Solids: 72.6

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H	8.0	0.45	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,1,2,2-Tetrachloroethane	ND	H	16	2.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,1,2-Trichloroethane	ND	H	8.0	0.74	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,1-Dichloroethene	ND	H	8.0	1.0	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,2-Dibromoethane	ND	H	8.0	0.72	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,2-Dichloroethane	ND	H *	8.0	1.0	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
1,4-Dichlorobenzene	ND	H	8.0	0.51	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Benzene	ND	H	8.0	0.68	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Bromodichloromethane	ND	H	8.0	0.51	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Bromoform	ND	H *	8.0	1.8	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Bromomethane	ND	H	8.0	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Chloroform	ND	H	8.0	0.48	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
cis-1,3-Dichloropropene	ND	H	8.0	0.59	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Dibromochloromethane	ND	H	8.0	0.92	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Dibromomethane	ND	H	8.0	0.95	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Hexachlorobutadiene	ND	H	8.0	1.1	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
<b>Naphthalene</b>	<b>2.0</b>	<b>J H</b>	8.0	1.5	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Tetrachloroethene	ND	H	8.0	1.0	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
trans-1,3-Dichloropropene	ND	H	8.0	0.55	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Trichloroethene	ND	H	8.0	0.69	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
Vinyl chloride	ND	H *	32	3.8	ug/Kg	✉	09/03/19 17:49	09/04/19 14:34	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	126	X		81 - 121			09/03/19 17:49	09/04/19 14:34	1
4-Bromofluorobenzene (Surr)	105			79 - 120			09/03/19 17:49	09/04/19 14:34	1
Dibromofluoromethane (Surr)	84			78 - 118			09/03/19 17:49	09/04/19 14:34	1
Toluene-d8 (Surr)	106			79 - 119			09/03/19 17:49	09/04/19 14:34	1
Trifluorotoluene (Surr)	92			52 - 152			09/03/19 17:49	09/04/19 14:34	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		64	15	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,1-Dichloroethane	ND		64	15	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,1-Dichloropropene	ND		64	8.5	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2,3-Trichlorobenzene	ND		240	52	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2,3-Trichloropropane	ND		64	18	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2,4-Trichlorobenzene	ND		96	25	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
<b>1,2,4-Trimethylbenzene</b>	<b>210</b>		64	22	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2-Dibromo-3-Chloropropane	ND		400	24	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2-Dichlorobenzene	ND		64	14	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,2-Dichloropropane	ND		32	11	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
<b>1,3,5-Trimethylbenzene</b>	<b>65</b>		64	12	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,3-Dichlorobenzene	ND		96	21	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
1,3-Dichloropropane	ND		96	22	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
2,2-Dichloropropane	ND		64	19	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
2-Butanone	ND		960	300	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
2-Chlorotoluene	ND		64	14	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
4-Chlorotoluene	ND		64	16	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
<b>4-Isopropyltoluene</b>	<b>21 J</b>		64	16	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1
4-Methyl-2-pentanone	ND *		640	130	ug/Kg	✉	08/30/19 20:41	08/31/19 17:14	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-04-SO**  
Date Collected: 08/20/19 15:43  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-14**  
Matrix: Solid  
Percent Solids: 72.6

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>440</b>	<b>J B</b>	1300	280	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Bromobenzene	ND		160	27	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Bromoform	ND		64	10	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Carbon disulfide	ND		96	19	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Carbon tetrachloride	ND		32	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Chlorobenzene	ND		64	7.7	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Chloroethane	ND		640	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Chloromethane	ND		160	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
cis-1,2-Dichloroethene	ND		96	20	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Dichlorodifluoromethane	ND		320	74	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Ethylbenzene	ND		64	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Isopropylbenzene	ND		64	14	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Methyl tert-butyl ether	ND		64	9.6	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Methylene Chloride	ND		400	100	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
<b>m-Xylene &amp; p-Xylene</b>	<b>74</b>	<b>J</b>	320	24	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
<b>N-Propylbenzene</b>	<b>20</b>	<b>J</b>	64	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
<b>o-Xylene</b>	<b>28</b>	<b>J</b>	96	22	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
sec-Butylbenzene	ND		64	14	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Styrene	ND		64	9.8	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
t-Butylbenzene	ND		64	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Toluene	ND		240	22	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
trans-1,2-Dichloroethene	ND		96	23	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
Trichlorofluoromethane	ND		320	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 17:14	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	101		80 - 121				08/30/19 20:41	08/31/19 17:14	1
4-Bromofluorobenzene (Surr)	95		80 - 120				08/30/19 20:41	08/31/19 17:14	1
Dibromofluoromethane (Surr)	95		80 - 120				08/30/19 20:41	08/31/19 17:14	1
Toluene-d8 (Surr)	113		80 - 120				08/30/19 20:41	08/31/19 17:14	1
Trifluorotoluene (Surr)	97		80 - 120				08/30/19 20:41	08/31/19 17:14	1

## Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND	H	240	13	ug/Kg	⊗	09/11/19 08:00	09/12/19 07:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	107		80 - 121				09/11/19 08:00	09/12/19 07:37	1
4-Bromofluorobenzene (Surr)	98		80 - 120				09/11/19 08:00	09/12/19 07:37	1
Dibromofluoromethane (Surr)	101		80 - 120				09/11/19 08:00	09/12/19 07:37	1
Toluene-d8 (Surr)	108		80 - 120				09/11/19 08:00	09/12/19 07:37	1
Trifluorotoluene (Surr)	94		80 - 120				09/11/19 08:00	09/12/19 07:37	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		14	5.6	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
2,4-Dinitrophenol	ND		200	41	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
2,4-Dinitrotoluene	ND		27	5.4	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
2,6-Dinitrotoluene	ND		14	4.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
3,3'-Dichlorobenzidine	ND		14	5.9	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
4-Chloroaniline	ND		200	66	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-04-SO**  
Date Collected: 08/20/19 15:43  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-14**  
Matrix: Solid  
Percent Solids: 72.6

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	ND		14	4.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
Hexachlorobenzene	ND		14	5.0	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
Hexachlorobutadiene	ND		14	2.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
Hexachlorocyclopentadiene	ND		14	4.8	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
Hexachloroethane	ND		14	4.1	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
Nitrobenzene	ND		14	4.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
N-Nitrosodimethylamine	ND		27	6.3	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
N-Nitrosodi-n-propylamine	ND		14	5.0	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
<b>Pentachlorophenol</b>	<b>130 J</b>		410	120	ug/Kg	⊗	09/03/19 09:39	09/04/19 14:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	81			28 - 143			09/03/19 09:39	09/04/19 14:40	1
2-Fluorobiphenyl	95			42 - 140			09/03/19 09:39	09/04/19 14:40	1
Nitrobenzene-d5	96			38 - 141			09/03/19 09:39	09/04/19 14:40	1
Terphenyl-d14	98			68 - 138			09/03/19 09:39	09/04/19 14:40	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		68	8.2	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
1,2-Dichlorobenzene	ND		68	16	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
1,3-Dichlorobenzene	ND		68	6.6	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
1,4-Dichlorobenzene	ND		68	11	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
1-Methylnaphthalene	ND		41	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2,4,5-Trichlorophenol	ND		270	61	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2,4-Dichlorophenol	ND		140	20	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2,4-Dimethylphenol	ND		140	20	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Chloronaphthalene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Chlorophenol	ND		270	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Methylnaphthalene	ND		68	12	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Methylphenol	ND		200	13	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Nitroaniline	ND		140	20	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
2-Nitrophenol	ND		270	29	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
3 & 4 Methylphenol	ND		270	20	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
3-Nitroaniline	ND		270	55	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4,6-Dinitro-2-methylphenol	ND		1400	140	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4-Bromophenyl phenyl ether	ND		270	12	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4-Chloro-3-methylphenol	ND		200	45	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4-Chlorophenyl phenyl ether	ND		270	8.6	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4-Nitroaniline	ND		200	68	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
4-Nitrophenol	ND		2000	500	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Acenaphthene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Acenaphthylene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
<b>Anthracene</b>	<b>8.9 J</b>		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzo[a]anthracene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzo[a]pyrene	ND		82	18	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzo[b]fluoranthene	ND		34	6.8	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzo[g,h,i]perylene	ND		82	12	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzo[k]fluoranthene	ND		82	19	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
<b>Benzoic acid</b>	<b>1100 J</b>		2700	790	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1
Benzyl alcohol	ND *		680	110	ug/Kg	⊗	09/03/19 09:39	09/05/19 18:47	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-04-SO**  
**Date Collected: 08/20/19 15:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-14**  
**Matrix: Solid**  
**Percent Solids: 72.6**

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		270	25	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>120</b>	<b>J</b>	820	97	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
bis(chloroisopropyl) ether	ND		270	19	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
<b>Butyl benzyl phthalate</b>	<b>100</b>	<b>J B</b>	270	70	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Carbazole	ND *		200	11	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Chrysene	ND		82	18	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Dibenz(a,h)anthracene	ND		68	16	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Dibenzofuran	ND		200	8.1	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Diethyl phthalate	ND		2000	100	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Dimethyl phthalate	ND		200	18	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Di-n-butyl phthalate	ND		680	78	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Di-n-octyl phthalate	ND		200	78	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
<b>Fluoranthene</b>	<b>14</b>	<b>J</b>	34	6.8	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Fluorene	ND		34	6.8	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Indeno[1,2,3-cd]pyrene	ND		55	6.8	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Isophorone	ND		200	10	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Naphthalene	ND		34	6.8	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
N-Nitrosodiphenylamine	ND		82	11	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Phenanthrene	ND		82	16	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
Phenol	ND		200	31	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1
<b>Pyrene</b>	<b>11</b>	<b>J</b>	82	8.7	ug/Kg	✉	09/03/19 09:39	09/05/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	88		52 - 125	09/03/19 09:39	09/05/19 18:47	1
2-Fluorobiphenyl	85		57 - 120	09/03/19 09:39	09/05/19 18:47	1
2-Fluorophenol (Surr)	94		60 - 125	09/03/19 09:39	09/05/19 18:47	1
Nitrobenzene-d5 (Surr)	102		62 - 120	09/03/19 09:39	09/05/19 18:47	1
Phenol-d5 (Surr)	94		59 - 120	09/03/19 09:39	09/05/19 18:47	1
Terphenyl-d14 (Surr)	97		58 - 120	09/03/19 09:39	09/05/19 18:47	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.40	0.089	ug/Kg	✉	09/03/19 12:39	09/06/19 19:12	1
Ethylene Dibromide	ND		0.067	0.016	ug/Kg	✉	09/03/19 12:39	09/06/19 19:12	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dibromopropane	41	X	60 - 140	09/03/19 12:39	09/06/19 19:12	1			

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1221	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1232	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1242	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1248	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
<b>PCB-1254</b>	<b>3.8</b>	<b>J p</b>	13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1260	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1268	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1
PCB-1262	ND		13	2.9	ug/Kg	✉	09/06/19 08:42	09/09/19 15:41	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-04-SO**

**Lab Sample ID: 580-88695-14**

Date Collected: 08/20/19 15:43  
Date Received: 08/26/19 12:25

Matrix: Solid

Percent Solids: 72.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	51	p	31 - 142	09/06/19 08:42	09/09/19 15:41	1
DCB Decachlorobiphenyl (Surr)	93		20 - 150	09/06/19 08:42	09/09/19 15:41	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	46		14	4.6	mg/Kg	⌚	09/03/19 11:22	09/04/19 01:00	1
Residual Range Organics (RRO) (C25-C36)	360		27	6.8	mg/Kg	⌚	09/03/19 11:22	09/04/19 01:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 150				09/03/19 11:22	09/04/19 01:00	1
<i>n</i> -Triaccontane-d62	101		50 - 150				09/03/19 11:22	09/04/19 01:00	1

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		0.22	0.044	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Barium	220		0.44	0.10	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Cadmium	0.47		0.18	0.034	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Chromium	27		0.22	0.028	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Lead	78	B	0.22	0.021	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Selenium	1.5		0.48	0.13	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:15	5
Silver	0.20		0.088	0.0088	mg/Kg	⌚	09/06/19 13:00	09/11/19 19:40	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12		0.032	0.0097	mg/Kg	⌚	09/09/19 10:05	09/09/19 15:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	72.6		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	27.4		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
Date Collected: 08/20/19 15:52  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-15**  
Matrix: Solid  
Percent Solids: 64.2

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H	10	0.57	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,1,2,2-Tetrachloroethane	ND	H	20	2.8	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,1,2-Trichloroethane	ND	H	10	0.93	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,1-Dichloroethene	ND	H	10	1.3	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,2-Dibromoethane	ND	H	10	0.91	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,2-Dichloroethane	ND	H *	10	1.3	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
1,4-Dichlorobenzene	ND	H	10	0.65	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
<b>Benzene</b>	<b>1.1</b>	<b>J H</b>	10	0.85	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Bromodichloromethane	ND	H	10	0.64	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Bromoform	ND	H *	10	2.3	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Bromomethane	ND	H	10	1.5	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Chloroform	ND	H	10	0.61	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
cis-1,3-Dichloropropene	ND	H	10	0.75	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Dibromochloromethane	ND	H	10	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Dibromomethane	ND	H	10	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Hexachlorobutadiene	ND	H	10	1.3	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
<b>Naphthalene</b>	<b>22</b>	<b>H</b>	10	1.8	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Tetrachloroethene	ND	H	10	1.3	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
trans-1,3-Dichloropropene	ND	H	10	0.69	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Trichloroethene	ND	H	10	0.87	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
Vinyl chloride	ND	H *	41	4.8	ug/Kg	✉	09/03/19 17:49	09/04/19 15:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	87			81 - 121			09/03/19 17:49	09/04/19 15:01	1
4-Bromofluorobenzene (Surr)	110			79 - 120			09/03/19 17:49	09/04/19 15:01	1
Dibromofluoromethane (Surr)	77	X		78 - 118			09/03/19 17:49	09/04/19 15:01	1
Toluene-d8 (Surr)	108			79 - 119			09/03/19 17:49	09/04/19 15:01	1
Trifluorotoluene (Surr)	93			52 - 152			09/03/19 17:49	09/04/19 15:01	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>1.7</b>	<b>J H</b>	10	1.3	ug/Kg	✉	09/14/19 14:31	09/14/19 22:40	1
Bromomethane	ND	H	10	1.5	ug/Kg	✉	09/14/19 14:31	09/14/19 22:40	1
Chloroform	ND	H	10	0.61	ug/Kg	✉	09/14/19 14:31	09/14/19 22:40	1
<b>Naphthalene</b>	<b>49</b>	<b>H B</b>	10	1.8	ug/Kg	✉	09/14/19 14:31	09/14/19 22:40	1
<b>Vinyl chloride</b>	<b>7.4</b>	<b>J H</b>	41	4.8	ug/Kg	✉	09/14/19 14:31	09/14/19 22:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	83			81 - 121			09/14/19 14:31	09/14/19 22:40	1
4-Bromofluorobenzene (Surr)	98			79 - 120			09/14/19 14:31	09/14/19 22:40	1
Dibromofluoromethane (Surr)	89			78 - 118			09/14/19 14:31	09/14/19 22:40	1
Toluene-d8 (Surr)	103			79 - 119			09/14/19 14:31	09/14/19 22:40	1
Trifluorotoluene (Surr)	107			52 - 152			09/14/19 14:31	09/14/19 22:40	1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		81	19	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,1-Dichloroethane	ND		81	19	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,1-Dichloropropene	ND		81	11	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,2,3-Trichlorobenzene	ND		300	65	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
Date Collected: 08/20/19 15:52  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-15**  
Matrix: Solid  
Percent Solids: 64.2

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		81	23	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,2,4-Trichlorobenzene	ND		120	31	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>1,2,4-Trimethylbenzene</b>	<b>270</b>		81	27	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,2-Dibromo-3-Chloropropane	ND		510	31	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,2-Dichlorobenzene	ND		81	18	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,2-Dichloropropane	ND		41	13	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>1,3,5-Trimethylbenzene</b>	<b>86</b>		81	15	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,3-Dichlorobenzene	ND		120	27	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
1,3-Dichloropropane	ND		120	28	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
2,2-Dichloropropane	ND		81	25	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
2-Butanone	ND		1200	380	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
2-Chlorotoluene	ND		81	18	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
4-Chlorotoluene	ND		81	20	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>4-Isopropyltoluene</b>	<b>25 J</b>		81	21	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
4-Methyl-2-pentanone	ND *		810	160	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Acetone	ND		1600	350	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Bromobenzene	ND		200	35	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Bromochloromethane	ND		81	13	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Carbon disulfide	ND		120	25	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Carbon tetrachloride	ND		41	16	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Chlorobenzene	ND		81	9.7	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Chloroethane	ND		810	20	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Chloromethane	ND		200	20	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
cis-1,2-Dichloroethene	ND		120	26	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Dichlorodifluoromethane	ND		410	93	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>Ethylbenzene</b>	<b>34 J</b>		81	18	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Isopropylbenzene	ND		81	17	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Methyl tert-butyl ether	ND		81	12	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Methylene Chloride	ND		510	130	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>m-Xylene &amp; p-Xylene</b>	<b>190 J</b>		410	30	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>n-Butylbenzene</b>	<b>210 J</b>		300	16	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>N-Propylbenzene</b>	<b>32 J</b>		81	14	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>o-Xylene</b>	<b>77 J</b>		120	27	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
sec-Butylbenzene	ND		81	17	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Styrene	ND		81	12	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
t-Butylbenzene	ND		81	16	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
<b>Toluene</b>	<b>47 J</b>		300	27	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
trans-1,2-Dichloroethene	ND		120	30	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1
Trichlorofluoromethane	ND		410	23	ug/Kg	✉	08/30/19 20:41	08/31/19 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		80 - 121	08/30/19 20:41	08/31/19 17:39	1
4-Bromofluorobenzene (Surr)	94		80 - 120	08/30/19 20:41	08/31/19 17:39	1
Dibromofluoromethane (Surr)	90		80 - 120	08/30/19 20:41	08/31/19 17:39	1
Toluene-d8 (Surr)	115		80 - 120	08/30/19 20:41	08/31/19 17:39	1
Trifluorotoluene (Surr)	113		80 - 120	08/30/19 20:41	08/31/19 17:39	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		150	63	ug/Kg	✉	09/03/19 09:39	09/04/19 15:03	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
Date Collected: 08/20/19 15:52  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-15**  
Matrix: Solid  
Percent Solids: 64.2

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		2300	460	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
2,4-Dinitrotoluene	ND		300	60	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
2,6-Dinitrotoluene	ND		150	47	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
3,3'-Dichlorobenzidine	ND		150	66	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
4-Chloroaniline	ND		2300	730	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Bis(2-chloroethyl)ether	ND		150	47	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Hexachlorobenzene	ND		150	56	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Hexachlorobutadiene	ND		150	30	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Hexachlorocyclopentadiene	ND		150	53	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Hexachloroethane	ND		150	46	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Nitrobenzene	ND		150	47	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
N-Nitrosodimethylamine	ND		300	70	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
N-Nitrosodi-n-propylamine	ND		150	56	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
Pentachlorophenol	ND		4600	1400	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:03	10
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol	98			28 - 143			09/03/19 09:39	09/04/19 15:03	10
2-Fluorobiphenyl	87			42 - 140			09/03/19 09:39	09/04/19 15:03	10
Nitrobenzene-d5	76			38 - 141			09/03/19 09:39	09/04/19 15:03	10
Terphenyl-d14	98			68 - 138			09/03/19 09:39	09/04/19 15:03	10

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		760	91	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
1,2-Dichlorobenzene	ND		760	180	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
1,3-Dichlorobenzene	ND		760	73	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
1,4-Dichlorobenzene	ND		760	130	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
<b>1-Methylnaphthalene</b>	<b>94 J</b>		460	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2,4,5-Trichlorophenol	ND		3000	680	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2,4-Dichlorophenol	ND		1500	230	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2,4-Dimethylphenol	ND		1500	230	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2-Chloronaphthalene	ND		380	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2-Chlorophenol	ND		3000	200	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
<b>2-Methylnaphthalene</b>	<b>150 J</b>		760	130	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2-Methylphenol	ND		2300	150	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2-Nitroaniline	ND		1500	230	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
2-Nitrophenol	ND		3000	320	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
3 & 4 Methylphenol	ND		3000	230	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
3-Nitroaniline	ND		3000	610	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4,6-Dinitro-2-methylphenol	ND		15000	1500	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4-Bromophenyl phenyl ether	ND		3000	140	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4-Chloro-3-methylphenol	ND		2300	500	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4-Chlorophenyl phenyl ether	ND		3000	96	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4-Nitroaniline	ND		2300	760	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
4-Nitrophenol	ND		23000	5600	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
Acenaphthene	ND		380	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
Acenaphthylene	ND		380	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
Anthracene	ND		380	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
Benzo[a]anthracene	ND		380	76	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10
Benzo[a]pyrene	ND		910	200	ug/Kg	⊗	09/03/19 09:39	09/05/19 19:11	10

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
Date Collected: 08/20/19 15:52  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-15**  
Matrix: Solid  
Percent Solids: 64.2

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		380	76	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Benzo[g,h,i]perylene	ND		910	140	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Benzo[k]fluoranthene	ND		910	210	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Benzoic acid	ND		30000	8800	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Benzyl alcohol	ND *		7600	1200	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Bis(2-chloroethoxy)methane	ND		3000	270	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Bis(2-ethylhexyl) phthalate	ND		9100	1100	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
bis(chloroisopropyl) ether	ND		3000	210	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Butyl benzyl phthalate	ND		3000	780	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Carbazole	ND *		2300	120	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Chrysene	ND		910	200	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Dibenz(a,h)anthracene	ND		760	180	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Dibenzofuran	ND		2300	90	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Diethyl phthalate	ND		23000	1200	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Dimethyl phthalate	ND		2300	200	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Di-n-butyl phthalate	ND		7600	870	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Di-n-octyl phthalate	ND		2300	870	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Fluoranthene	ND		380	76	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Fluorene	ND		380	76	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Indeno[1,2,3-cd]pyrene	ND		610	76	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Isophorone	ND		2300	110	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Naphthalene	ND		380	76	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
N-Nitrosodiphenylamine	ND		910	120	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Phenanthrene	ND		910	180	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Phenol	ND		2300	350	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10
Pyrene	ND		910	97	ug/Kg	⌚	09/03/19 09:39	09/05/19 19:11	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	164	X	52 - 125	09/03/19 09:39	09/05/19 19:11	10
2-Fluorobiphenyl	96		57 - 120	09/03/19 09:39	09/05/19 19:11	10
2-Fluorophenol (Surr)	96		60 - 125	09/03/19 09:39	09/05/19 19:11	10
Nitrobenzene-d5 (Surr)	109		62 - 120	09/03/19 09:39	09/05/19 19:11	10
Phenol-d5 (Surr)	109		59 - 120	09/03/19 09:39	09/05/19 19:11	10
Terphenyl-d14 (Surr)	110		58 - 120	09/03/19 09:39	09/05/19 19:11	10

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.43	0.095	ug/Kg	⌚	09/03/19 12:39	09/06/19 19:28	1
Ethylene Dibromide	ND		0.072	0.017	ug/Kg	⌚	09/03/19 12:39	09/06/19 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	12	X	60 - 140	09/03/19 12:39	09/06/19 19:28	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		15	3.3	ug/Kg	⌚	09/06/19 08:42	09/09/19 16:01	1
PCB-1221	ND		15	3.3	ug/Kg	⌚	09/06/19 08:42	09/09/19 16:01	1
PCB-1232	ND		15	3.3	ug/Kg	⌚	09/06/19 08:42	09/09/19 16:01	1
PCB-1242	ND		15	3.3	ug/Kg	⌚	09/06/19 08:42	09/09/19 16:01	1
PCB-1248	ND		15	3.3	ug/Kg	⌚	09/06/19 08:42	09/09/19 16:01	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
 Date Collected: 08/20/19 15:52  
 Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-15**  
 Matrix: Solid  
 Percent Solids: 64.2

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	25		15	3.3	ug/Kg	✉	09/06/19 08:42	09/09/19 16:01	1
PCB-1260	ND		15	3.3	ug/Kg	✉	09/06/19 08:42	09/09/19 16:01	1
PCB-1268	ND		15	3.3	ug/Kg	✉	09/06/19 08:42	09/09/19 16:01	1
PCB-1262	ND		15	3.3	ug/Kg	✉	09/06/19 08:42	09/09/19 16:01	1

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
			31 - 142	20 - 150				
Tetrachloro-m-xylene	44					09/06/19 08:42	09/09/19 16:01	1
DCB Decachlorobiphenyl (Surr)	88					09/06/19 08:42	09/09/19 16:01	1

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	1600		78	26	mg/Kg	✉	09/03/19 11:22	09/04/19 01:20	5
Residual Range Organics (RRO) (C25-C36)	5800		160	39	mg/Kg	✉	09/03/19 11:22	09/04/19 01:20	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
<i>o</i> -Terphenyl	114		50 - 150			09/03/19 11:22	09/04/19 01:20	5	
<i>n</i> -Triaccontane-d62	99		50 - 150			09/03/19 11:22	09/04/19 01:20	5	

## Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		0.24	0.049	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Barium	290		0.49	0.11	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Cadmium	1.9		0.20	0.038	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Chromium	28		0.24	0.031	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Lead	210	B	0.24	0.023	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Selenium	1.6		0.54	0.14	mg/Kg	✉	09/06/19 13:00	09/11/19 09:20	5
Silver	0.21		0.098	0.0098	mg/Kg	✉	09/06/19 13:00	09/11/19 19:45	5

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.18		0.038	0.012	mg/Kg	✉	09/09/19 10:05	09/09/19 15:36	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	64.2		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	35.8		0.1	0.1	%			08/30/19 14:26	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**  
Date Collected: 08/20/19 16:01  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-16**  
Matrix: Solid  
Percent Solids: 81.5

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	H	6.6	0.37	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,1,2,2-Tetrachloroethane	ND	H	13	1.8	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,1,2-Trichloroethane	ND	H	6.6	0.60	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,1-Dichloroethene	ND	H	6.6	0.81	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,2-Dibromoethane	ND	H	6.6	0.59	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,2-Dichloroethane	ND	H *	6.6	0.83	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
1,4-Dichlorobenzene	ND	H	6.6	0.42	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Benzene	ND	H	6.6	0.55	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Bromodichloromethane	ND	H	6.6	0.41	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Bromoform	ND	H *	6.6	1.5	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Bromomethane	ND	H	6.6	0.97	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Chloroform	ND	H	6.6	0.39	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
cis-1,3-Dichloropropene	ND	H	6.6	0.49	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Dibromochloromethane	ND	H	6.6	0.75	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Dibromomethane	ND	H	6.6	0.77	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Hexachlorobutadiene	ND	H	6.6	0.87	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
<b>Naphthalene</b>	<b>4.8</b>	<b>J H</b>	6.6	1.2	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Tetrachloroethene	ND	H	6.6	0.83	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
trans-1,3-Dichloropropene	ND	H	6.6	0.45	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Trichloroethene	ND	H	6.6	0.56	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1
Vinyl chloride	ND	H *	26	3.1	ug/Kg	✉	09/03/19 17:49	09/04/19 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126	X	81 - 121	09/03/19 17:49	09/04/19 15:27	1
4-Bromofluorobenzene (Surr)	110		79 - 120	09/03/19 17:49	09/04/19 15:27	1
Dibromofluoromethane (Surr)	110		78 - 118	09/03/19 17:49	09/04/19 15:27	1
Toluene-d8 (Surr)	103		79 - 119	09/03/19 17:49	09/04/19 15:27	1
Trifluorotoluene (Surr)	112		52 - 152	09/03/19 17:49	09/04/19 15:27	1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Naphthalene</b>	<b>11</b>	<b>H B</b>	6.6	1.2	ug/Kg	✉	09/14/19 14:31	09/14/19 23:07	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	94		81 - 121	09/14/19 14:31	09/14/19 23:07	1			
4-Bromofluorobenzene (Surr)	99		79 - 120	09/14/19 14:31	09/14/19 23:07	1			
Dibromofluoromethane (Surr)	91		78 - 118	09/14/19 14:31	09/14/19 23:07	1			
Toluene-d8 (Surr)	105		79 - 119	09/14/19 14:31	09/14/19 23:07	1			
Trifluorotoluene (Surr)	104		52 - 152	09/14/19 14:31	09/14/19 23:07	1			

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		53	13	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,1-Dichloroethane	ND		53	12	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,1-Dichloropropene	ND		53	7.0	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,2,3-Trichlorobenzene	ND		200	42	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,2,3-Trichloropropane	ND		53	15	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,2,4-Trichlorobenzene	ND		79	20	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
<b>1,2,4-Trimethylbenzene</b>	<b>100</b>		53	18	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1
1,2-Dibromo-3-Chloropropane	ND		330	20	ug/Kg	✉	08/30/19 20:41	08/31/19 18:04	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**  
Date Collected: 08/20/19 16:01  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-16**  
Matrix: Solid  
Percent Solids: 81.5

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		53	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
1,2-Dichloropropane	ND		26	8.7	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>1,3,5-Trimethylbenzene</b>	<b>31 J</b>		53	10	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
1,3-Dichlorobenzene	ND		79	17	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
1,3-Dichloropropane	ND		79	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
2,2-Dichloropropane	ND		53	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
2-Butanone	ND		790	240	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
2-Chlorotoluene	ND		53	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
4-Chlorotoluene	ND		53	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
4-Isopropyltoluene	ND		53	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
4-Methyl-2-pentanone	ND *		530	110	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>Acetone</b>	<b>240 J B</b>		1100	230	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Bromobenzene	ND		130	22	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Bromochloromethane	ND		53	8.1	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Carbon disulfide	ND		79	16	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Carbon tetrachloride	ND		26	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Chlorobenzene	ND		53	6.3	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Chloroethane	ND		530	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Chloromethane	ND		130	13	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
cis-1,2-Dichloroethene	ND		79	17	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Dichlorodifluoromethane	ND		260	60	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Ethylbenzene	ND		53	12	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Isopropylbenzene	ND		53	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Methyl tert-butyl ether	ND		53	7.9	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Methylene Chloride	ND		330	85	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>m-Xylene &amp; p-Xylene</b>	<b>46 J</b>		260	20	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>n-Butylbenzene</b>	<b>72 J</b>		200	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>N-Propylbenzene</b>	<b>11 J</b>		53	9.1	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>o-Xylene</b>	<b>19 J</b>		79	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
sec-Butylbenzene	ND		53	11	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Styrene	ND		53	8.0	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
t-Butylbenzene	ND		53	10	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Toluene	ND		200	18	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
trans-1,2-Dichloroethene	ND		79	19	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
Trichlorofluoromethane	ND		260	15	ug/Kg	⊗	08/30/19 20:41	08/31/19 18:04	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	90			80 - 121			08/30/19 20:41	08/31/19 18:04	1
4-Bromofluorobenzene (Surr)	97			80 - 120			08/30/19 20:41	08/31/19 18:04	1
Dibromofluoromethane (Surr)	91			80 - 120			08/30/19 20:41	08/31/19 18:04	1
Toluene-d8 (Surr)	114			80 - 120			08/30/19 20:41	08/31/19 18:04	1
Trifluorotoluene (Surr)	123 X			80 - 120			08/30/19 20:41	08/31/19 18:04	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		12	4.9	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:27	1
2,4-Dinitrophenol	ND		180	36	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:27	1
2,4-Dinitrotoluene	ND		24	4.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:27	1
2,6-Dinitrotoluene	ND		12	3.7	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:27	1
3,3'-Dichlorobenzidine	ND		12	5.2	ug/Kg	⊗	09/03/19 09:39	09/04/19 15:27	1

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# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**  
Date Collected: 08/20/19 16:01  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-16**  
Matrix: Solid  
Percent Solids: 81.5

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	ND		180	57	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Bis(2-chloroethyl)ether	ND		12	3.7	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Hexachlorobenzene	ND		12	4.4	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Hexachlorobutadiene	ND		12	2.3	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Hexachlorocyclopentadiene	ND		12	4.2	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Hexachloroethane	ND		12	3.6	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Nitrobenzene	ND		12	3.7	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
N-Nitrosodimethylamine	ND		24	5.5	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
N-Nitrosodi-n-propylamine	ND		12	4.4	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
Pentachlorophenol	ND		360	110	ug/Kg	✉	09/03/19 09:39	09/04/19 15:27	1
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol		83		28 - 143			09/03/19 09:39	09/04/19 15:27	1
2-Fluorobiphenyl		102		42 - 140			09/03/19 09:39	09/04/19 15:27	1
Nitrobenzene-d5		88		38 - 141			09/03/19 09:39	09/04/19 15:27	1
Terphenyl-d14		101		68 - 138			09/03/19 09:39	09/04/19 15:27	1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		60	7.2	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
1,2-Dichlorobenzene	ND		60	14	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
1,3-Dichlorobenzene	ND		60	5.7	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
1,4-Dichlorobenzene	ND		60	9.9	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
1-Methylnaphthalene	ND		36	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2,4,5-Trichlorophenol	ND		240	54	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2,4-Dichlorophenol	ND		120	18	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2,4-Dimethylphenol	ND		120	18	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Chloronaphthalene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Chlorophenol	ND		240	16	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Methylnaphthalene	ND		60	11	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Methylphenol	ND		180	12	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Nitroaniline	ND		120	18	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
2-Nitrophenol	ND		240	25	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
3 & 4 Methylphenol	ND		240	18	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
3-Nitroaniline	ND		240	48	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4,6-Dinitro-2-methylphenol	ND		1200	120	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4-Bromophenyl phenyl ether	ND		240	11	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4-Chloro-3-methylphenol	ND		180	39	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4-Chlorophenyl phenyl ether	ND		240	7.5	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4-Nitroaniline	ND		180	60	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
4-Nitrophenol	ND		1800	440	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Acenaphthene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Acenaphthylene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Anthracene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Benzo[a]anthracene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Benzo[a]pyrene	ND		72	16	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Benzo[b]fluoranthene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Benzo[g,h,i]perylene	ND		72	11	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Benzo[k]fluoranthene	ND		72	17	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
<b>Benzoic acid</b>	<b>940</b>	<b>J</b>	2400	690	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**  
Date Collected: 08/20/19 16:01  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-16**  
Matrix: Solid  
Percent Solids: 81.5

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND	*	600	92	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Bis(2-chloroethoxy)methane	ND		240	22	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>520</b>	<b>J</b>	720	85	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
bis(chloroisopropyl) ether	ND		240	17	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
<b>Butyl benzyl phthalate</b>	<b>400</b>	<b>B</b>	240	61	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Carbazole	ND	*	180	9.8	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Chrysene	ND		72	16	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Dibenz(a,h)anthracene	ND		60	14	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Dibenzofuran	ND		180	7.1	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Diethyl phthalate	ND		1800	91	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Dimethyl phthalate	ND		180	16	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Di-n-butyl phthalate	ND		600	68	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Di-n-octyl phthalate	ND		180	68	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
<b>Fluoranthene</b>	<b>13</b>	<b>J</b>	30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Fluorene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Indeno[1,2,3-cd]pyrene	ND		48	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Isophorone	ND		180	8.8	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Naphthalene	ND		30	6.0	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
N-Nitrosodiphenylamine	ND		72	9.6	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Phenanthrene	ND		72	14	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
Phenol	ND		180	27	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1
<b>Pyrene</b>	<b>8.1</b>	<b>J</b>	72	7.7	ug/Kg	✉	09/03/19 09:39	09/05/19 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	97		52 - 125	09/03/19 09:39	09/05/19 19:34	1
2-Fluorobiphenyl	92		57 - 120	09/03/19 09:39	09/05/19 19:34	1
2-Fluorophenol (Surr)	94		60 - 125	09/03/19 09:39	09/05/19 19:34	1
Nitrobenzene-d5 (Surr)	105		62 - 120	09/03/19 09:39	09/05/19 19:34	1
Phenol-d5 (Surr)	93		59 - 120	09/03/19 09:39	09/05/19 19:34	1
Terphenyl-d14 (Surr)	97		58 - 120	09/03/19 09:39	09/05/19 19:34	1

## Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.36	0.080	ug/Kg	✉	09/03/19 12:39	09/06/19 19:44	1
Ethylene Dibromide	ND		0.061	0.015	ug/Kg	✉	09/03/19 12:39	09/06/19 19:44	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dibromopropane	11	X	60 - 140	09/03/19 12:39	09/06/19 19:44	1			

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Diesel Range Organics (DRO) (C10-C25)</b>	<b>25</b>		12	4.1	mg/Kg	✉	09/03/19 11:22	09/04/19 01:59	1
<b>Residual Range Organics (RRO) (C25-C36)</b>	<b>210</b>		24	6.0	mg/Kg	✉	09/03/19 11:22	09/04/19 01:59	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
<i>o</i> -Terphenyl	102		50 - 150	09/03/19 11:22	09/04/19 01:59	1			
<i>n</i> -Triaccontane-d62	115		50 - 150	09/03/19 11:22	09/04/19 01:59	1			

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**

Date Collected: 08/20/19 16:01

Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-16**

Matrix: Solid

Percent Solids: 81.5

**Method: 6020A - Metals (ICP/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		0.20	0.040	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Barium	140		0.40	0.090	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Cadmium	0.37		0.16	0.030	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Chromium	22		0.20	0.025	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Lead	50	B	0.20	0.019	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Selenium	1.1		0.44	0.11	mg/Kg	⌚	09/06/19 13:00	09/11/19 09:25	5
Silver	0.13		0.079	0.0079	mg/Kg	⌚	09/06/19 13:00	09/11/19 19:49	5

**Method: 7471A - Mercury (CVAA)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.15		0.030	0.0091	mg/Kg	⌚	09/09/19 10:05	09/09/19 15:38	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.5		0.1	0.1	%			08/30/19 14:26	1
Percent Moisture	18.5		0.1	0.1	%			08/30/19 14:26	1

## Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TD-01-SO**  
Date Collected: 08/21/19 13:43  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-17**  
Matrix: Solid  
Percent Solids: 56.4

**Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	4300		170	58	mg/Kg		09/03/19 11:22	09/04/19 02:19	10
Residual Range Organics (RRO) (C25-C36)	5100		340	86	mg/Kg		09/03/19 11:22	09/04/19 02:19	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl</i> <i>n-Triaccontane-d62</i>	86		50 - 150				09/03/19 11:22	09/04/19 02:19	10
	172	X	50 - 150				09/03/19 11:22	09/04/19 02:19	10

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	43.6		0.01	0.01	%		08/30/19 15:02	1	10
Percent Solids	56.4		0.01	0.01	%		08/30/19 15:02	1	11

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## Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TD-07-SO**  
Date Collected: 08/21/19 13:43  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-18**  
Matrix: Solid  
Percent Solids: 59.3

### Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	4200		160	55	mg/Kg		09/03/19 11:22	09/04/19 02:39	10
Residual Range Organics (RRO) (C25-C36)	4200		320	81	mg/Kg		09/03/19 11:22	09/04/19 02:39	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl/n-Triaccontane-d62</i>	77	X	50 - 150				09/03/19 11:22	09/04/19 02:39	10
	180		50 - 150				09/03/19 11:22	09/04/19 02:39	10

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	40.7		0.01	0.01	%		08/30/19 15:02	1	10
Percent Solids	59.3		0.01	0.01	%		08/30/19 15:02	1	11

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# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-08-W**  
**Date Collected: 08/21/19 10:55**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-19**  
**Matrix: Water**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			08/31/19 01:35	1
Toluene	ND		2.0	0.39	ug/L			08/31/19 01:35	1
Ethylbenzene	ND *		3.0	0.50	ug/L			08/31/19 01:35	1
m-Xylene & p-Xylene	ND *		3.0	0.75	ug/L			08/31/19 01:35	1
o-Xylene	ND		2.0	0.39	ug/L			08/31/19 01:35	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	94		80 - 120					08/31/19 01:35	1
Trifluorotoluene (Surr)	105		80 - 120					08/31/19 01:35	1
4-Bromofluorobenzene (Surr)	90		80 - 120					08/31/19 01:35	1
Dibromofluoromethane (Surr)	98		80 - 120					08/31/19 01:35	1
1,2-Dichloroethane-d4 (Surr)	108		80 - 126					08/31/19 01:35	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.025	ug/L			09/05/19 12:29	1
2-Methylnaphthalene	ND		0.030	0.0060	ug/L			09/05/19 12:29	1
1-Methylnaphthalene	ND		0.030	0.0070	ug/L			09/05/19 12:29	1
Acenaphthylene	ND *		0.030	0.0060	ug/L			09/05/19 12:29	1
Acenaphthene	ND		0.030	0.0060	ug/L			09/05/19 12:29	1
Fluorene	ND		0.060	0.0060	ug/L			09/05/19 12:29	1
Phenanthrene	ND		0.060	0.017	ug/L			09/05/19 12:29	1
Anthracene	ND		0.060	0.0060	ug/L			09/05/19 12:29	1
Fluoranthene	ND		0.060	0.015	ug/L			09/05/19 12:29	1
Pyrene	ND		0.030	0.0060	ug/L			09/05/19 12:29	1
<b>Benzo[a]anthracene</b>	<b>0.0096 J B</b>		0.060	0.0060	ug/L			09/05/19 12:29	1
Chrysene	ND		0.060	0.015	ug/L			09/05/19 12:29	1
Benzo[b]fluoranthene	ND		0.060	0.013	ug/L			09/05/19 12:29	1
Benzo[k]fluoranthene	ND		0.060	0.0060	ug/L			09/05/19 12:29	1
Benzo[a]pyrene	ND *		0.060	0.0060	ug/L			09/05/19 12:29	1
Indeno[1,2,3-cd]pyrene	ND		0.030	0.0060	ug/L			09/05/19 12:29	1
Dibenz(a,h)anthracene	ND		0.060	0.013	ug/L			09/05/19 12:29	1
Benzo[g,h,i]perylene	ND		0.060	0.0060	ug/L			09/05/19 12:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	69		54 - 120					09/05/19 12:29	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-09-W**  
**Date Collected: 08/21/19 10:52**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-20**  
**Matrix: Water**

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			08/31/19 01:59	1
Toluene	ND		2.0	0.39	ug/L			08/31/19 01:59	1
Ethylbenzene	ND *		3.0	0.50	ug/L			08/31/19 01:59	1
m-Xylene & p-Xylene	ND *		3.0	0.75	ug/L			08/31/19 01:59	1
o-Xylene	ND		2.0	0.39	ug/L			08/31/19 01:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120					08/31/19 01:59	1
Trifluorotoluene (Surr)	106		80 - 120					08/31/19 01:59	1
4-Bromofluorobenzene (Surr)	106		80 - 120					08/31/19 01:59	1
Dibromofluoromethane (Surr)	110		80 - 120					08/31/19 01:59	1
1,2-Dichloroethane-d4 (Surr)	119		80 - 126					08/31/19 01:59	1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.025	ug/L			09/05/19 12:53	1
2-Methylnaphthalene	ND		0.030	0.0060	ug/L			09/05/19 12:53	1
1-Methylnaphthalene	ND		0.030	0.0070	ug/L			09/05/19 12:53	1
Acenaphthylene	ND *		0.030	0.0060	ug/L			09/05/19 12:53	1
Acenaphthene	ND		0.030	0.0060	ug/L			09/05/19 12:53	1
Fluorene	ND		0.060	0.0060	ug/L			09/05/19 12:53	1
Phenanthrene	ND		0.060	0.017	ug/L			09/05/19 12:53	1
Anthracene	ND		0.060	0.0060	ug/L			09/05/19 12:53	1
Fluoranthene	ND		0.060	0.015	ug/L			09/05/19 12:53	1
Pyrene	ND		0.030	0.0060	ug/L			09/05/19 12:53	1
<b>Benzo[a]anthracene</b>	<b>0.010 JB</b>		0.060	0.0060	ug/L			09/05/19 12:53	1
Chrysene	ND		0.060	0.015	ug/L			09/05/19 12:53	1
Benzo[b]fluoranthene	ND		0.060	0.013	ug/L			09/05/19 12:53	1
Benzo[k]fluoranthene	ND		0.060	0.0060	ug/L			09/05/19 12:53	1
Benzo[a]pyrene	ND *		0.060	0.0060	ug/L			09/05/19 12:53	1
Indeno[1,2,3-cd]pyrene	ND		0.030	0.0060	ug/L			09/05/19 12:53	1
Dibenz(a,h)anthracene	ND		0.060	0.013	ug/L			09/05/19 12:53	1
Benzo[g,h,i]perylene	ND		0.060	0.0060	ug/L			09/05/19 12:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		54 - 120					09/05/19 12:53	1

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-16-W**  
**Date Collected: 08/21/19 10:50**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-21**  
**Matrix: Water**

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0082	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:13	1
Barium	0.027		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:13	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:13	1
Chromium	0.0020		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:13	1
Lead	0.00037	J	0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:13	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:13	1
Silver	ND		0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:13	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		08/29/19 09:58	08/29/19 15:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	47		2.0	2.0	mg/L		09/03/19 14:56		1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-15-W**  
Date Collected: 08/21/19 12:04  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-22**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.010	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:17	1
Barium	0.023		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:17	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:17	1
Chromium	0.0018		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:17	1
Lead	0.00022	J	0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:17	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:17	1
Silver	0.000067	J	0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:17	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0071	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/10/19 00:22	1
Barium	0.022		0.0012	0.00021	mg/L		09/06/19 10:36	09/10/19 00:22	1
Cadmium	0.00011	J	0.00040	0.00010	mg/L		09/06/19 10:36	09/10/19 00:22	1
Chromium	0.0015		0.00040	0.00017	mg/L		09/06/19 10:36	09/10/19 00:22	1
Lead	ND		0.00080	0.00020	mg/L		09/06/19 10:36	09/10/19 00:22	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/10/19 00:22	1
Silver	0.00074		0.00040	0.000055	mg/L		09/06/19 10:36	09/10/19 00:22	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		08/29/19 09:58	08/29/19 15:35	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 17:13	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	23		2.0	2.0	mg/L			09/03/19 14:56	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-10-W**  
Date Collected: 08/21/19 14:08  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-23**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0084	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:22	1
Barium	0.023		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:22	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:22	1
Chromium	0.0017		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:22	1
Lead	0.00027	J	0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:22	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:22	1
Silver	ND		0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:22	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0075	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/09/19 23:34	1
Barium	0.022		0.0012	0.00021	mg/L		09/06/19 10:36	09/09/19 23:34	1
Cadmium	0.00042		0.00040	0.00010	mg/L		09/06/19 10:36	09/09/19 23:34	1
Chromium	0.0019		0.00040	0.00017	mg/L		09/06/19 10:36	09/09/19 23:34	1
Lead	0.00042	J	0.00080	0.00020	mg/L		09/06/19 10:36	09/09/19 23:34	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/09/19 23:34	1
Silver	0.00014	J	0.00040	0.000055	mg/L		09/06/19 10:36	09/09/19 23:34	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:54	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 17:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	59		2.0	2.0	mg/L			09/03/19 14:56	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-11-W**  
Date Collected: 08/21/19 14:12  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-24**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0067	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:26	1
Barium	0.015		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:26	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:26	1
Chromium	0.0018		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:26	1
Lead	ND		0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:26	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:26	1
Silver	0.000060	J	0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:26	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0050	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/10/19 00:26	1
Barium	0.013		0.0012	0.00021	mg/L		09/06/19 10:36	09/10/19 00:26	1
Cadmium	ND		0.00040	0.00010	mg/L		09/06/19 10:36	09/10/19 00:26	1
Chromium	0.0014		0.00040	0.00017	mg/L		09/06/19 10:36	09/10/19 00:26	1
Lead	ND		0.00080	0.00020	mg/L		09/06/19 10:36	09/10/19 00:26	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/10/19 00:26	1
Silver	ND		0.00040	0.000055	mg/L		09/06/19 10:36	09/10/19 00:26	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:41	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 16:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	41		2.0	2.0	mg/L			09/03/19 14:56	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-12-W**  
Date Collected: 08/21/19 14:56  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-25**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0063	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:30	1
Barium	0.015		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:30	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:30	1
Chromium	0.0020		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:30	1
Lead	ND		0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:30	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:30	1
Silver	ND		0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:30	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0056	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/10/19 00:31	1
Barium	0.013		0.0012	0.00021	mg/L		09/06/19 10:36	09/10/19 00:31	1
Cadmium	ND		0.00040	0.00010	mg/L		09/06/19 10:36	09/10/19 00:31	1
Chromium	0.0015		0.00040	0.00017	mg/L		09/06/19 10:36	09/10/19 00:31	1
Lead	ND		0.00080	0.00020	mg/L		09/06/19 10:36	09/10/19 00:31	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/10/19 00:31	1
Silver	0.000059	J	0.00040	0.000055	mg/L		09/06/19 10:36	09/10/19 00:31	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:26	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 17:00	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	40		2.0	2.0	mg/L			09/03/19 14:57	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-13-W**  
Date Collected: 08/21/19 18:34  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-26**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0078	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:35	1
Barium	0.023		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:35	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:35	1
Chromium	0.0019		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:35	1
Lead	0.00023	J	0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:35	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:35	1
Silver	ND		0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:35	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0074	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/10/19 00:35	1
Barium	0.020		0.0012	0.00021	mg/L		09/06/19 10:36	09/10/19 00:35	1
Cadmium	0.00037	J	0.00040	0.00010	mg/L		09/06/19 10:36	09/10/19 00:35	1
Chromium	0.0018		0.00040	0.00017	mg/L		09/06/19 10:36	09/10/19 00:35	1
Lead	0.00038	J	0.00080	0.00020	mg/L		09/06/19 10:36	09/10/19 00:35	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/10/19 00:35	1
Silver	ND		0.00040	0.000055	mg/L		09/06/19 10:36	09/10/19 00:35	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:39	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 17:02	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	42		2.0	2.0	mg/L			09/03/19 14:57	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-14-W**  
Date Collected: 08/21/19 18:34  
Date Received: 08/26/19 12:25

**Lab Sample ID: 580-88695-27**  
Matrix: Water

## Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0078	B	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 20:39	1
Barium	0.023		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 20:39	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 20:39	1
Chromium	0.0018		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 20:39	1
Lead	ND		0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 20:39	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 20:39	1
Silver	0.000061	J	0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 20:39	1

## Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0065	B	0.0010	0.00020	mg/L		09/06/19 10:36	09/10/19 00:40	1
Barium	0.020		0.0012	0.00021	mg/L		09/06/19 10:36	09/10/19 00:40	1
Cadmium	ND		0.00040	0.00010	mg/L		09/06/19 10:36	09/10/19 00:40	1
Chromium	0.0016		0.00040	0.00017	mg/L		09/06/19 10:36	09/10/19 00:40	1
Lead	ND		0.00080	0.00020	mg/L		09/06/19 10:36	09/10/19 00:40	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/10/19 00:40	1
Silver	ND		0.00040	0.000055	mg/L		09/06/19 10:36	09/10/19 00:40	1

## Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:36	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 17:05	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	43		2.0	2.0	mg/L			09/03/19 14:57	1

# Client Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-88695-28**

**Matrix: Water**

Date Collected: 08/21/19 00:01  
 Date Received: 08/26/19 12:25

**Method: 8260C - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		3.0	0.53	ug/L			08/31/19 00:21	1
Toluene	ND		2.0	0.39	ug/L			08/31/19 00:21	1
Ethylbenzene	ND *		3.0	0.50	ug/L			08/31/19 00:21	1
m-Xylene & p-Xylene	ND *		3.0	0.75	ug/L			08/31/19 00:21	1
o-Xylene	ND		2.0	0.39	ug/L			08/31/19 00:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Toluene-d8 (Surr)	98		80 - 120					08/31/19 00:21	1
Trifluorotoluene (Surr)	93		80 - 120					08/31/19 00:21	1
4-Bromofluorobenzene (Surr)	107		80 - 120					08/31/19 00:21	1
Dibromofluoromethane (Surr)	96		80 - 120					08/31/19 00:21	1
1,2-Dichloroethane-d4 (Surr)	106		80 - 126					08/31/19 00:21	1

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 580-309932/7**

**Matrix: Water**

**Analysis Batch: 309932**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	ND		3.0	0.53	ug/L			08/30/19 23:33	1
Ethylbenzene	ND		3.0	0.50	ug/L			08/30/19 23:33	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			08/30/19 23:33	1
o-Xylene	ND		2.0	0.39	ug/L			08/30/19 23:33	1
Toluene	ND		2.0	0.39	ug/L			08/30/19 23:33	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	106		80 - 126				08/30/19 23:33	1
4-Bromofluorobenzene (Surr)	102		80 - 120				08/30/19 23:33	1
Dibromofluoromethane (Surr)	103		80 - 120				08/30/19 23:33	1
Toluene-d8 (Surr)	99		80 - 120				08/30/19 23:33	1
Trifluorotoluene (Surr)	99		80 - 120				08/30/19 23:33	1

**Lab Sample ID: LCS 580-309932/4**

**Matrix: Water**

**Analysis Batch: 309932**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spikes	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
Benzene	10.0	10.5		ug/L		105	75 - 121	
Ethylbenzene	10.0	10.6		ug/L		106	80 - 120	
m-Xylene & p-Xylene	10.0	10.7		ug/L		107	80 - 120	
o-Xylene	10.0	10.5		ug/L		105	80 - 120	
Toluene	10.0	10.5		ug/L		105	80 - 120	

Surrogate	LCSS	LCSS	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	108		80 - 126					
4-Bromofluorobenzene (Surr)	108		80 - 120					
Dibromofluoromethane (Surr)	107		80 - 120					
Toluene-d8 (Surr)	97		80 - 120					
Trifluorotoluene (Surr)	106		80 - 120					

**Lab Sample ID: LCSD 580-309932/5**

**Matrix: Water**

**Analysis Batch: 309932**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
	Added	Result	Qualifier						
Benzene	10.0	10.1		ug/L		101	75 - 121	3	14
Ethylbenzene	10.0	8.75	*	ug/L		87	80 - 120	19	14
m-Xylene & p-Xylene	10.0	9.22	*	ug/L		92	80 - 120	15	14
o-Xylene	10.0	9.69		ug/L		97	80 - 120	8	16
Toluene	10.0	8.70		ug/L		87	80 - 120	19	19

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	107		80 - 126					
4-Bromofluorobenzene (Surr)	108		80 - 120					
Dibromofluoromethane (Surr)	100		80 - 120					
Toluene-d8 (Surr)	86		80 - 120					

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-309932/5**

**Matrix: Water**

**Analysis Batch: 309932**

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
Trifluorotoluene (Surr)	109		80 - 120

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Lab Sample ID: MB 580-309944/1-A**

**Matrix: Solid**

**Analysis Batch: 310039**

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND				40	9.6	ug/Kg				1
1,1-Dichloroethane	ND				40	9.2	ug/Kg				1
1,1-Dichloropropene	ND				40	5.3	ug/Kg				1
1,2,3-Trichlorobenzene	ND				150	32	ug/Kg				1
1,2,3-Trichloropropane	ND				40	12	ug/Kg				1
1,2,4-Trichlorobenzene	ND				60	15	ug/Kg				1
1,2,4-Trimethylbenzene	ND				40	14	ug/Kg				1
1,2-Dibromo-3-Chloropropane	ND				250	15	ug/Kg				1
1,2-Dichlorobenzene	ND				40	8.7	ug/Kg				1
1,2-Dichloropropane	ND				20	6.6	ug/Kg				1
1,3,5-Trimethylbenzene	ND				40	7.6	ug/Kg				1
1,3-Dichlorobenzene	ND				60	13	ug/Kg				1
1,3-Dichloropropane	ND				60	14	ug/Kg				1
2,2-Dichloropropane	ND				40	12	ug/Kg				1
2-Butanone	ND				600	190	ug/Kg				1
2-Chlorotoluene	ND				40	8.8	ug/Kg				1
4-Chlorotoluene	ND				40	9.8	ug/Kg				1
4-Isopropyltoluene	ND				40	10	ug/Kg				1
4-Methyl-2-pentanone	ND				400	81	ug/Kg				1
Acetone	527	J			800	170	ug/Kg				1
Bromobenzene	ND				100	17	ug/Kg				1
Bromochloromethane	ND				40	6.2	ug/Kg				1
Carbon disulfide	ND				60	12	ug/Kg				1
Carbon tetrachloride	ND				20	8.1	ug/Kg				1
Chlorobenzene	ND				40	4.8	ug/Kg				1
Chloroethane	ND				400	10	ug/Kg				1
Chloromethane	ND				100	10	ug/Kg				1
cis-1,2-Dichloroethene	ND				60	13	ug/Kg				1
Dichlorodifluoromethane	ND				200	46	ug/Kg				1
Ethylbenzene	ND				40	9.1	ug/Kg				1
Isopropylbenzene	ND				40	8.6	ug/Kg				1
Methyl tert-butyl ether	ND				40	6.0	ug/Kg				1
Methylene Chloride	ND				250	65	ug/Kg				1
m-Xylene & p-Xylene	ND				200	15	ug/Kg				1
n-Butylbenzene	ND				150	8.0	ug/Kg				1
N-Propylbenzene	ND				40	6.9	ug/Kg				1
o-Xylene	ND				60	13	ug/Kg				1
sec-Butylbenzene	ND				40	8.6	ug/Kg				1
Styrene	ND				40	6.1	ug/Kg				1
t-Butylbenzene	ND				40	7.7	ug/Kg				1
Toluene	ND				150	14	ug/Kg				1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 580-309944/1-A**

**Matrix: Solid**

**Analysis Batch: 310039**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 309944**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		08/30/19 20:41	08/31/19 08:57	1
Trichlorofluoromethane	ND		200	11	ug/Kg		08/30/19 20:41	08/31/19 08:57	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		80 - 121				08/30/19 20:41	08/31/19 08:57	1
4-Bromofluorobenzene (Surr)	96		80 - 120				08/30/19 20:41	08/31/19 08:57	1
Dibromofluoromethane (Surr)	94		80 - 120				08/30/19 20:41	08/31/19 08:57	1
Toluene-d8 (Surr)	113		80 - 120				08/30/19 20:41	08/31/19 08:57	1
Trifluorotoluene (Surr)	94		80 - 120				08/30/19 20:41	08/31/19 08:57	1

**Lab Sample ID: LCS 580-309944/2-A**

**Matrix: Solid**

**Analysis Batch: 310039**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 309944**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	800	747		ug/Kg		93	69 - 150
1,1-Dichloroethane	800	726		ug/Kg		91	70 - 135
1,1-Dichloropropene	800	756		ug/Kg		95	69 - 150
1,2,3-Trichlorobenzene	800	666		ug/Kg		83	62 - 136
1,2,3-Trichloropropane	800	888		ug/Kg		111	70 - 127
1,2,4-Trichlorobenzene	800	736		ug/Kg		92	68 - 131
1,2,4-Trimethylbenzene	800	946		ug/Kg		118	73 - 127
1,2-Dibromo-3-Chloropropane	800	757		ug/Kg		95	62 - 135
1,2-Dichlorobenzene	800	879		ug/Kg		110	78 - 126
1,2-Dichloropropane	800	725		ug/Kg		91	65 - 136
1,3,5-Trimethylbenzene	800	952		ug/Kg		119	72 - 136
1,3-Dichlorobenzene	800	899		ug/Kg		112	78 - 122
1,3-Dichloropropane	800	849		ug/Kg		106	75 - 120
2,2-Dichloropropane	800	616		ug/Kg		77	62 - 150
2-Butanone	4000	3920		ug/Kg		98	55 - 143
2-Chlorotoluene	800	926		ug/Kg		116	77 - 127
4-Chlorotoluene	800	920		ug/Kg		115	78 - 126
4-Isopropyltoluene	800	932		ug/Kg		116	71 - 142
4-Methyl-2-pentanone	4000	4530		ug/Kg		113	68 - 125
Acetone	4000	4540		ug/Kg		114	25 - 150
Bromobenzene	800	873		ug/Kg		109	78 - 126
Bromochloromethane	800	710		ug/Kg		89	76 - 131
Carbon disulfide	800	706		ug/Kg		88	68 - 150
Carbon tetrachloride	800	730		ug/Kg		91	66 - 150
Chlorobenzene	800	882		ug/Kg		110	80 - 123
Chloroethane	800	684		ug/Kg		86	31 - 150
Chloromethane	800	626		ug/Kg		78	43 - 150
cis-1,2-Dichloroethene	800	744		ug/Kg		93	68 - 143
Dichlorodifluoromethane	800	434		ug/Kg		54	10 - 150
Ethylbenzene	800	901		ug/Kg		113	80 - 135
Isopropylbenzene	800	922		ug/Kg		115	74 - 140
Methyl tert-butyl ether	800	753		ug/Kg		94	68 - 132
Methylene Chloride	800	757		ug/Kg		95	54 - 149

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 580-309944/2-A**

**Matrix: Solid**

**Analysis Batch: 310039**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 309944**

**%Rec.**

**Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
m-Xylene & p-Xylene	800	908		ug/Kg		113	80 - 132
n-Butylbenzene	800	914		ug/Kg		114	69 - 143
N-Propylbenzene	800	956		ug/Kg		120	74 - 143
o-Xylene	800	896		ug/Kg		112	80 - 125
sec-Butylbenzene	800	971		ug/Kg		121	77 - 143
Styrene	800	903		ug/Kg		113	79 - 129
t-Butylbenzene	800	976		ug/Kg		122	72 - 144
Toluene	800	883		ug/Kg		110	75 - 137
trans-1,2-Dichloroethene	800	739		ug/Kg		92	61 - 150
Trichlorofluoromethane	800	728		ug/Kg		91	48 - 150

**LCS**

**LCS**

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		80 - 121
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	94		80 - 120
Toluene-d8 (Surr)	111		80 - 120
Trifluorotoluene (Surr)	92		80 - 120

**Lab Sample ID: LCSD 580-309944/3-A**

**Matrix: Solid**

**Analysis Batch: 310039**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309944**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
1,1,1-Trichloroethane	800	759		ug/Kg		95	69 - 150	2	14
1,1-Dichloroethane	800	742		ug/Kg		93	70 - 135	2	21
1,1-Dichloropropene	800	780		ug/Kg		98	69 - 150	3	11
1,2,3-Trichlorobenzene	800	825		ug/Kg		103	62 - 136	21	34
1,2,3-Trichloropropane	800	945		ug/Kg		118	70 - 127	6	16
1,2,4-Trichlorobenzene	800	833		ug/Kg		104	68 - 131	12	29
1,2,4-Trimethylbenzene	800	962		ug/Kg		120	73 - 127	2	20
1,2-Dibromo-3-Chloropropane	800	924		ug/Kg		116	62 - 135	20	25
1,2-Dichlorobenzene	800	895		ug/Kg		112	78 - 126	2	21
1,2-Dichloropropane	800	748		ug/Kg		93	65 - 136	3	13
1,3,5-Trimethylbenzene	800	975		ug/Kg		122	72 - 136	2	21
1,3-Dichlorobenzene	800	913		ug/Kg		114	78 - 122	2	20
1,3-Dichloropropane	800	895		ug/Kg		112	75 - 120	5	18
2,2-Dichloropropane	800	616		ug/Kg		77	62 - 150	0	20
2-Butanone	4000	4320		ug/Kg		108	55 - 143	10	31
2-Chlorotoluene	800	971		ug/Kg		121	77 - 127	5	16
4-Chlorotoluene	800	946		ug/Kg		118	78 - 126	3	16
4-Isopropyltoluene	800	954		ug/Kg		119	71 - 142	2	23
4-Methyl-2-pentanone	4000	5130 *		ug/Kg		128	68 - 125	12	20
Acetone	4000	4620		ug/Kg		115	25 - 150	2	39
Bromobenzene	800	910		ug/Kg		114	78 - 126	4	19
Bromochloromethane	800	731		ug/Kg		91	76 - 131	3	15
Carbon disulfide	800	731		ug/Kg		91	68 - 150	3	27
Carbon tetrachloride	800	757		ug/Kg		95	66 - 150	4	12
Chlorobenzene	800	900		ug/Kg		113	80 - 123	2	18

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-309944/3-A**

**Matrix: Solid**

**Analysis Batch: 310039**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309944**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD RPD	Limit
Chloroethane	800	673		ug/Kg		84	31 - 150	2	31
Chloromethane	800	614		ug/Kg		77	43 - 150	2	26
cis-1,2-Dichloroethene	800	763		ug/Kg		95	68 - 143	3	20
Dichlorodifluoromethane	800	424		ug/Kg		53	10 - 150	2	40
Ethylbenzene	800	928		ug/Kg		116	80 - 135	3	16
Isopropylbenzene	800	935		ug/Kg		117	74 - 140	1	17
Methyl tert-butyl ether	800	780		ug/Kg		97	68 - 132	3	25
Methylene Chloride	800	775		ug/Kg		97	54 - 149	2	30
m-Xylene & p-Xylene	800	924		ug/Kg		116	80 - 132	2	20
n-Butylbenzene	800	931		ug/Kg		116	69 - 143	2	26
N-Propylbenzene	800	985		ug/Kg		123	74 - 143	3	21
o-Xylene	800	915		ug/Kg		114	80 - 125	2	14
sec-Butylbenzene	800	1000		ug/Kg		126	77 - 143	3	24
Styrene	800	915		ug/Kg		114	79 - 129	1	15
t-Butylbenzene	800	998		ug/Kg		125	72 - 144	2	24
Toluene	800	918		ug/Kg		115	75 - 137	4	20
trans-1,2-Dichloroethene	800	767		ug/Kg		96	61 - 150	4	22
Trichlorofluoromethane	800	732		ug/Kg		91	48 - 150	1	40

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	97		80 - 121
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	94		80 - 120
Toluene-d8 (Surr)	110		80 - 120
Trifluorotoluene (Surr)	92		80 - 120

**Lab Sample ID: MB 580-310196/22-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310196**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	9.6	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,1-Dichloroethane	ND		40	9.2	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,1-Dichloropropene	ND		40	5.3	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2,3-Trichlorobenzene	ND		150	32	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2,3-Trichloropropane	ND		40	12	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2,4-Trichlorobenzene	ND		60	15	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2,4-Trimethylbenzene	ND		40	14	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2-Dibromo-3-Chloropropane	ND		250	15	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2-Dichlorobenzene	ND		40	8.7	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,2-Dichloropropane	ND		20	6.6	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,3,5-Trimethylbenzene	ND		40	7.6	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,3-Dichlorobenzene	ND		60	13	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
1,3-Dichloropropane	ND		60	14	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
2,2-Dichloropropane	ND		40	12	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
2-Butanone	ND		600	190	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
2-Chlorotoluene	ND		40	8.8	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
4-Chlorotoluene	ND		40	9.8	ug/Kg		09/04/19 12:48	09/04/19 13:01	1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 580-310196/22-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310196**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	ND		40	10	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
4-Methyl-2-pentanone	ND		400	81	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Acetone	ND		800	170	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Bromobenzene	ND		100	17	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Bromochloromethane	ND		40	6.2	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Carbon disulfide	ND		60	12	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Carbon tetrachloride	ND		20	8.1	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Chlorobenzene	ND		40	4.8	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Chloroethane	ND		400	10	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Chloromethane	ND		100	10	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
cis-1,2-Dichloroethene	ND		60	13	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Dichlorodifluoromethane	ND		200	46	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Ethylbenzene	ND		40	9.1	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Isopropylbenzene	ND		40	8.6	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Methyl tert-butyl ether	ND		40	6.0	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Methylene Chloride	ND		250	65	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
m-Xylene & p-Xylene	ND		200	15	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
n-Butylbenzene	ND		150	8.0	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
N-Propylbenzene	ND		40	6.9	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
o-Xylene	ND		60	13	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
sec-Butylbenzene	ND		40	8.6	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Styrene	ND		40	6.1	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
t-Butylbenzene	ND		40	7.7	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Toluene	ND		150	14	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
trans-1,2-Dichloroethene	ND		60	15	ug/Kg		09/04/19 12:48	09/04/19 13:01	1
Trichlorofluoromethane	ND		200	11	ug/Kg		09/04/19 12:48	09/04/19 13:01	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		80 - 121	09/04/19 12:48	09/04/19 13:01	1
4-Bromofluorobenzene (Surr)	100		80 - 120	09/04/19 12:48	09/04/19 13:01	1
Dibromofluoromethane (Surr)	99		80 - 120	09/04/19 12:48	09/04/19 13:01	1
Toluene-d8 (Surr)	105		80 - 120	09/04/19 12:48	09/04/19 13:01	1
Trifluorotoluene (Surr)	96		80 - 120	09/04/19 12:48	09/04/19 13:01	1

**Lab Sample ID: LCS 580-310196/23-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310196**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	800	849		ug/Kg		106	69 - 150
1,1-Dichloroethane	800	798		ug/Kg		100	70 - 135
1,1-Dichloropropene	800	837		ug/Kg		105	69 - 150
1,2,3-Trichlorobenzene	800	803		ug/Kg		100	62 - 136
1,2,3-Trichloropropane	800	878		ug/Kg		110	70 - 127
1,2,4-Trichlorobenzene	800	826		ug/Kg		103	68 - 131
1,2,4-Trimethylbenzene	800	856		ug/Kg		107	73 - 127
1,2-Dibromo-3-Chloropropane	800	876		ug/Kg		110	62 - 135
1,2-Dichlorobenzene	800	849		ug/Kg		106	78 - 126

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 580-310196/23-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310196**

**%Rec.**

**Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2-Dichloropropane	800	796		ug/Kg		99	65 - 136
1,3,5-Trimethylbenzene	800	880		ug/Kg		110	72 - 136
1,3-Dichlorobenzene	800	845		ug/Kg		106	78 - 122
1,3-Dichloropropane	800	806		ug/Kg		101	75 - 120
2,2-Dichloropropane	800	859		ug/Kg		107	62 - 150
2-Butanone	4000	4080		ug/Kg		102	55 - 143
2-Chlorotoluene	800	853		ug/Kg		107	77 - 127
4-Chlorotoluene	800	872		ug/Kg		109	78 - 126
4-Isopropyltoluene	800	883		ug/Kg		110	71 - 142
4-Methyl-2-pentanone	4000	3580		ug/Kg		90	68 - 125
Acetone	4000	4260		ug/Kg		106	25 - 150
Bromobenzene	800	848		ug/Kg		106	78 - 126
Bromochloromethane	800	795		ug/Kg		99	76 - 131
Carbon disulfide	800	823		ug/Kg		103	68 - 150
Carbon tetrachloride	800	878		ug/Kg		110	66 - 150
Chlorobenzene	800	854		ug/Kg		107	80 - 123
Chloroethane	800	772		ug/Kg		96	31 - 150
Chloromethane	800	785		ug/Kg		98	43 - 150
cis-1,2-Dichloroethene	800	857		ug/Kg		107	68 - 143
Dichlorodifluoromethane	800	667		ug/Kg		83	10 - 150
Ethylbenzene	800	866		ug/Kg		108	80 - 135
Isopropylbenzene	800	883		ug/Kg		110	74 - 140
Methyl tert-butyl ether	800	781		ug/Kg		98	68 - 132
Methylene Chloride	800	812		ug/Kg		101	54 - 149
m-Xylene & p-Xylene	800	856		ug/Kg		107	80 - 132
n-Butylbenzene	800	897		ug/Kg		112	69 - 143
N-Propylbenzene	800	880		ug/Kg		110	74 - 143
o-Xylene	800	830		ug/Kg		104	80 - 125
sec-Butylbenzene	800	918		ug/Kg		115	77 - 143
Styrene	800	848		ug/Kg		106	79 - 129
t-Butylbenzene	800	917		ug/Kg		115	72 - 144
Toluene	800	846		ug/Kg		106	75 - 137
trans-1,2-Dichloroethene	800	806		ug/Kg		101	61 - 150
Trichlorofluoromethane	800	865		ug/Kg		108	48 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		80 - 121
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120
Toluene-d8 (Surr)	101		80 - 120
Trifluorotoluene (Surr)	99		80 - 120

**Lab Sample ID: LCSD 580-310196/24-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310196**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	RPD	RPD Limit
1,1,1-Trichloroethane	800	834		ug/Kg		104	69 - 150	2 14

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-310196/24-A**

**Matrix: Solid**

**Analysis Batch: 310228**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310196**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	800	781		ug/Kg		98	70 - 135	2	21
1,1-Dichloropropene	800	830		ug/Kg		104	69 - 150	1	11
1,2,3-Trichlorobenzene	800	868		ug/Kg		109	62 - 136	8	34
1,2,3-Trichloropropane	800	914		ug/Kg		114	70 - 127	4	16
1,2,4-Trichlorobenzene	800	863		ug/Kg		108	68 - 131	4	29
1,2,4-Trimethylbenzene	800	871		ug/Kg		109	73 - 127	2	20
1,2-Dibromo-3-Chloropropane	800	954		ug/Kg		119	62 - 135	8	25
1,2-Dichlorobenzene	800	879		ug/Kg		110	78 - 126	3	21
1,2-Dichloropropane	800	795		ug/Kg		99	65 - 136	0	13
1,3,5-Trimethylbenzene	800	887		ug/Kg		111	72 - 136	1	21
1,3-Dichlorobenzene	800	851		ug/Kg		106	78 - 122	1	20
1,3-Dichloropropane	800	828		ug/Kg		104	75 - 120	3	18
2,2-Dichloropropane	800	795		ug/Kg		99	62 - 150	8	20
2-Butanone	4000	4690		ug/Kg		117	55 - 143	14	31
2-Chlorotoluene	800	871		ug/Kg		109	77 - 127	2	16
4-Chlorotoluene	800	869		ug/Kg		109	78 - 126	0	16
4-Isopropyltoluene	800	900		ug/Kg		113	71 - 142	2	23
4-Methyl-2-pentanone	4000	4260		ug/Kg		107	68 - 125	17	20
Acetone	4000	4530		ug/Kg		113	25 - 150	6	39
Bromobenzene	800	847		ug/Kg		106	78 - 126	0	19
Bromochloromethane	800	785		ug/Kg		98	76 - 131	1	15
Carbon disulfide	800	816		ug/Kg		102	68 - 150	1	27
Carbon tetrachloride	800	852		ug/Kg		107	66 - 150	3	12
Chlorobenzene	800	857		ug/Kg		107	80 - 123	0	18
Chloroethane	800	761		ug/Kg		95	31 - 150	1	31
Chloromethane	800	785		ug/Kg		98	43 - 150	0	26
cis-1,2-Dichloroethene	800	836		ug/Kg		105	68 - 143	2	20
Dichlorodifluoromethane	800	653		ug/Kg		82	10 - 150	2	40
Ethylbenzene	800	871		ug/Kg		109	80 - 135	1	16
Isopropylbenzene	800	890		ug/Kg		111	74 - 140	1	17
Methyl tert-butyl ether	800	798		ug/Kg		100	68 - 132	2	25
Methylene Chloride	800	811		ug/Kg		101	54 - 149	0	30
m-Xylene & p-Xylene	800	865		ug/Kg		108	80 - 132	1	20
n-Butylbenzene	800	920		ug/Kg		115	69 - 143	2	26
N-Propylbenzene	800	866		ug/Kg		108	74 - 143	2	21
o-Xylene	800	836		ug/Kg		105	80 - 125	1	14
sec-Butylbenzene	800	921		ug/Kg		115	77 - 143	0	24
Styrene	800	846		ug/Kg		106	79 - 129	0	15
t-Butylbenzene	800	920		ug/Kg		115	72 - 144	0	24
Toluene	800	863		ug/Kg		108	75 - 137	2	20
trans-1,2-Dichloroethene	800	810		ug/Kg		101	61 - 150	0	22
Trichlorofluoromethane	800	821		ug/Kg		103	48 - 150	5	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		80 - 121
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
Toluene-d8 (Surr)	103		80 - 120

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCSD 580-310196/24-A**

**Matrix: Solid**

**Analysis Batch: 310228**

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
Trifluorotoluene (Surr)			99		80 - 120

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310196**

**Lab Sample ID: MB 580-311029/1-A**

**Matrix: Solid**

**Analysis Batch: 311062**

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene			ND		150	8.0	ug/Kg		09/11/19 08:00	09/12/19 01:00	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			99		80 - 121	09/11/19 08:00	09/12/19 01:00	1
4-Bromofluorobenzene (Surr)			95		80 - 120	09/11/19 08:00	09/12/19 01:00	1
Dibromofluoromethane (Surr)			99		80 - 120	09/11/19 08:00	09/12/19 01:00	1
Toluene-d8 (Surr)			110		80 - 120	09/11/19 08:00	09/12/19 01:00	1
Trifluorotoluene (Surr)			93		80 - 120	09/11/19 08:00	09/12/19 01:00	1

**Lab Sample ID: LCS 580-311029/2-A**

**Matrix: Solid**

**Analysis Batch: 311062**

Analyte	LCS	LCS	Spike Added	Result	Qualifier	Unit	D	%Rec.	Limits
n-Butylbenzene			800	929		ug/Kg		116	69 - 143

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)			101		80 - 121
4-Bromofluorobenzene (Surr)			96		80 - 120
Dibromofluoromethane (Surr)			98		80 - 120
Toluene-d8 (Surr)			109		80 - 120
Trifluorotoluene (Surr)			93		80 - 120

**Lab Sample ID: LCSD 580-311029/3-A**

**Matrix: Solid**

**Analysis Batch: 311062**

Analyte	LCSD	LCSD	Spike Added	Result	Qualifier	Unit	D	%Rec.	RPD
n-Butylbenzene			800	970		ug/Kg		121	69 - 143

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)			102		80 - 121
4-Bromofluorobenzene (Surr)			95		80 - 120
Dibromofluoromethane (Surr)			97		80 - 120
Toluene-d8 (Surr)			107		80 - 120
Trifluorotoluene (Surr)			92		80 - 120

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 311029**

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 580-309975/1-A**

**Matrix: Solid**

**Analysis Batch: 309985**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 309975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,1,2-Trichloroethane	ND		5.0	0.46	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,1-Dichloroethene	ND		5.0	0.62	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,2-Dichloroethane	ND		5.0	0.63	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
1,4-Dichlorobenzene	ND		5.0	0.32	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Benzene	ND		5.0	0.42	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Bromodichloromethane	ND		5.0	0.32	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Bromoform	ND		5.0	1.1	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Bromomethane	ND		5.0	0.74	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Chloroform	1.29	J	5.0	0.30	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
cis-1,3-Dichloropropene	ND		5.0	0.37	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Dibromochloromethane	ND		5.0	0.57	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Dibromomethane	ND		5.0	0.59	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Hexachlorobutadiene	2.16	J	5.0	0.66	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Naphthalene	3.48	J	5.0	0.91	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Tetrachloroethene	ND		5.0	0.63	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Trichloroethene	ND		5.0	0.43	ug/Kg	09/01/19 13:40	09/02/19 04:09		1
Vinyl chloride	ND		20	2.4	ug/Kg	09/01/19 13:40	09/02/19 04:09		1

### MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125	X	81 - 121	09/01/19 13:40	09/02/19 04:09	1
4-Bromofluorobenzene (Surr)	91		79 - 120	09/01/19 13:40	09/02/19 04:09	1
Dibromofluoromethane (Surr)	133	X	78 - 118	09/01/19 13:40	09/02/19 04:09	1
Toluene-d8 (Surr)	100		79 - 119	09/01/19 13:40	09/02/19 04:09	1
Trifluorotoluene (Surr)	140		52 - 152	09/01/19 13:40	09/02/19 04:09	1

**Lab Sample ID: LCS 580-309975/2-A**

**Matrix: Solid**

**Analysis Batch: 309985**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 309975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	200	195		ug/Kg		98	65 - 123	
1,1,2,2-Tetrachloroethane	200	152		ug/Kg		76	65 - 125	
1,1,2-Trichloroethane	200	136	*	ug/Kg		68	69 - 117	
1,1-Dichloroethene	200	245		ug/Kg		122	58 - 123	
1,2-Dibromoethane	200	185		ug/Kg		92	69 - 119	
1,2-Dichloroethane	200	179		ug/Kg		89	71 - 121	
1,4-Dichlorobenzene	200	195		ug/Kg		97	71 - 117	
Benzene	200	156		ug/Kg		78	70 - 118	
Bromodichloromethane	200	195		ug/Kg		97	75 - 119	
Bromoform	200	248		ug/Kg		124	50 - 124	
Bromomethane	200	144		ug/Kg		72	41 - 148	
Chloroform	200	204		ug/Kg		102	72 - 125	
cis-1,3-Dichloropropene	200	168		ug/Kg		84	69 - 129	
Dibromochloromethane	200	214		ug/Kg		107	64 - 129	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 580-309975/2-A**

**Matrix: Solid**

**Analysis Batch: 309985**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 309975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dibromomethane	200	230		ug/Kg		115	64 - 126
Hexachlorobutadiene	200	230		ug/Kg		115	58 - 128
Naphthalene	200	139		ug/Kg		69	45 - 141
Tetrachloroethene	200	227		ug/Kg		113	63 - 123
trans-1,3-Dichloropropene	200	180		ug/Kg		90	65 - 129
Trichloroethene	200	208		ug/Kg		104	68 - 118
Vinyl chloride	200	245		ug/Kg		122	43 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		81 - 121
4-Bromofluorobenzene (Surr)	110		79 - 120
Dibromofluoromethane (Surr)	116		78 - 118
Toluene-d8 (Surr)	79		79 - 119
Trifluorotoluene (Surr)	96		52 - 152

**Lab Sample ID: LCSD 580-309975/3-A**

**Matrix: Solid**

**Analysis Batch: 309985**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	200	208		ug/Kg		104	65 - 123	6	20
1,1,2,2-Tetrachloroethane	200	166		ug/Kg		83	65 - 125	9	22
1,1,2-Trichloroethane	200	166	*	ug/Kg		83	69 - 117	20	18
1,1-Dichloroethene	200	316	*	ug/Kg		158	58 - 123	25	23
1,2-Dibromoethane	200	210		ug/Kg		105	69 - 119	13	15
1,2-Dichloroethane	200	226	*	ug/Kg		113	71 - 121	24	18
1,4-Dichlorobenzene	200	203		ug/Kg		101	71 - 117	4	18
Benzene	200	216	*	ug/Kg		108	70 - 118	32	19
Bromodichloromethane	200	246	*	ug/Kg		123	75 - 119	23	19
Bromoform	200	247		ug/Kg		124	50 - 124	0	16
Bromomethane	200	227	*	ug/Kg		113	41 - 148	44	29
Chloroform	200	255	*	ug/Kg		128	72 - 125	22	17
cis-1,3-Dichloropropene	200	220	*	ug/Kg		110	69 - 129	27	19
Dibromochloromethane	200	221		ug/Kg		110	64 - 129	3	14
Dibromomethane	200	306	*	ug/Kg		153	64 - 126	29	18
Hexachlorobutadiene	200	233		ug/Kg		116	58 - 128	1	29
Naphthalene	200	153		ug/Kg		77	45 - 141	10	34
Tetrachloroethene	200	228		ug/Kg		114	63 - 123	1	20
trans-1,3-Dichloropropene	200	245	*	ug/Kg		122	65 - 129	30	20
Trichloroethene	200	274	*	ug/Kg		137	68 - 118	27	17
Vinyl chloride	200	281	*	ug/Kg		141	43 - 131	14	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	124	X	81 - 121
4-Bromofluorobenzene (Surr)	110		79 - 120
Dibromofluoromethane (Surr)	133	X	78 - 118
Toluene-d8 (Surr)	95		79 - 119
Trifluorotoluene (Surr)	139		52 - 152

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 580-310134/14-A**

**Matrix: Solid**

**Analysis Batch: 310106**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310134**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,1,2-Trichloroethane	ND		5.0	0.46	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,1-Dichloroethene	ND		5.0	0.62	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,2-Dichloroethane	ND		5.0	0.63	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
1,4-Dichlorobenzene	ND		5.0	0.32	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Benzene	ND		5.0	0.42	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Bromodichloromethane	ND		5.0	0.32	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Bromoform	ND		5.0	1.1	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Bromomethane	ND		5.0	0.74	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Chloroform	1.25 J		5.0	0.30	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
cis-1,3-Dichloropropene	ND		5.0	0.37	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Dibromochloromethane	ND		5.0	0.57	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Dibromomethane	ND		5.0	0.59	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Hexachlorobutadiene	ND		5.0	0.66	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Naphthalene	ND		5.0	0.91	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Tetrachloroethene	ND		5.0	0.63	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Trichloroethene	ND		5.0	0.43	ug/Kg	09/03/19 17:49	09/04/19 13:16		1
Vinyl chloride	ND		20	2.4	ug/Kg	09/03/19 17:49	09/04/19 13:16		1

### MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	131	X	81 - 121	09/03/19 17:49	09/04/19 13:16	1
4-Bromofluorobenzene (Surr)	118		79 - 120	09/03/19 17:49	09/04/19 13:16	1
Dibromofluoromethane (Surr)	112		78 - 118	09/03/19 17:49	09/04/19 13:16	1
Toluene-d8 (Surr)	106		79 - 119	09/03/19 17:49	09/04/19 13:16	1
Trifluorotoluene (Surr)	94		52 - 152	09/03/19 17:49	09/04/19 13:16	1

**Lab Sample ID: LCS 580-310134/15-A**

**Matrix: Solid**

**Analysis Batch: 310106**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310134**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	200	212		ug/Kg		106	65 - 123	
1,1,2,2-Tetrachloroethane	200	211		ug/Kg		105	65 - 125	
1,1,2-Trichloroethane	200	204		ug/Kg		102	69 - 117	
1,1-Dichloroethene	200	247		ug/Kg		123	58 - 123	
1,2-Dibromoethane	200	217		ug/Kg		109	69 - 119	
1,2-Dichloroethane	200	243 *		ug/Kg		122	71 - 121	
1,4-Dichlorobenzene	200	194		ug/Kg		97	71 - 117	
Benzene	200	199		ug/Kg		99	70 - 118	
Bromodichloromethane	200	225		ug/Kg		112	75 - 119	
Bromoform	200	265 *		ug/Kg		132	50 - 124	
Bromomethane	200	209		ug/Kg		104	41 - 148	
Chloroform	200	236		ug/Kg		118	72 - 125	
cis-1,3-Dichloropropene	200	213		ug/Kg		106	69 - 129	
Dibromochloromethane	200	221		ug/Kg		111	64 - 129	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 580-310134/15-A**

**Matrix: Solid**

**Analysis Batch: 310106**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310134**

**%Rec.**

**Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dibromomethane	200	219		ug/Kg		110	64 - 126
Hexachlorobutadiene	200	224		ug/Kg		112	58 - 128
Naphthalene	200	136		ug/Kg		68	45 - 141
Tetrachloroethene	200	215		ug/Kg		108	63 - 123
trans-1,3-Dichloropropene	200	234		ug/Kg		117	65 - 129
Trichloroethene	200	193		ug/Kg		97	68 - 118
Vinyl chloride	200	373	*	ug/Kg		186	43 - 131

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	131	X	81 - 121
4-Bromofluorobenzene (Surr)	107		79 - 120
Dibromofluoromethane (Surr)	113		78 - 118
Toluene-d8 (Surr)	101		79 - 119
Trifluorotoluene (Surr)	96		52 - 152

**Lab Sample ID: MB 580-310305/1-A**

**Matrix: Solid**

**Analysis Batch: 310347**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310305**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,1,2-Trichloroethane	ND		5.0	0.46	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,1-Dichloroethene	ND		5.0	0.62	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,2-Dichloroethane	ND		5.0	0.63	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
1,4-Dichlorobenzene	ND		5.0	0.32	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Benzene	ND		5.0	0.42	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Bromodichloromethane	ND		5.0	0.32	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Bromoform	ND		5.0	1.1	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Bromomethane	ND		5.0	0.74	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Chloroform	0.681	J	5.0	0.30	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
cis-1,3-Dichloropropene	0.455	J	5.0	0.37	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Dibromochloromethane	ND		5.0	0.57	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Dibromomethane	ND		5.0	0.59	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Hexachlorobutadiene	ND		5.0	0.66	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Naphthalene	4.65	J	5.0	0.91	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Tetrachloroethene	ND		5.0	0.63	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Trichloroethene	ND		5.0	0.43	ug/Kg		09/05/19 14:04	09/05/19 18:35	1
Vinyl chloride	ND		20	2.4	ug/Kg		09/05/19 14:04	09/05/19 18:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		81 - 121			1
4-Bromofluorobenzene (Surr)	105		79 - 120			1
Dibromofluoromethane (Surr)	101		78 - 118			1
Toluene-d8 (Surr)	101		79 - 119			1
Trifluorotoluene (Surr)	101		52 - 152			1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: LCS 580-310305/2-A**

**Matrix: Solid**

**Analysis Batch: 310347**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	200	229		ug/Kg		114	65 - 123	
1,1,2,2-Tetrachloroethane	200	240		ug/Kg		120	65 - 125	
1,1,2-Trichloroethane	200	233		ug/Kg		117	69 - 117	
1,1-Dichloroethene	200	271	*	ug/Kg		136	58 - 123	
1,2-Dibromoethane	200	231		ug/Kg		116	69 - 119	
1,2-Dichloroethane	200	193		ug/Kg		96	71 - 121	
1,4-Dichlorobenzene	200	240	*	ug/Kg		120	71 - 117	
Benzene	200	247	*	ug/Kg		123	70 - 118	
Bromodichloromethane	200	212		ug/Kg		106	75 - 119	
Bromoform	200	209		ug/Kg		104	50 - 124	
Bromomethane	200	209		ug/Kg		105	41 - 148	
Chloroform	200	226		ug/Kg		113	72 - 125	
cis-1,3-Dichloropropene	200	223		ug/Kg		111	69 - 129	
Dibromochloromethane	200	220		ug/Kg		110	64 - 129	
Dibromomethane	200	221		ug/Kg		110	64 - 126	
Hexachlorobutadiene	200	233		ug/Kg		117	58 - 128	
Naphthalene	200	279		ug/Kg		140	45 - 141	
Tetrachloroethene	200	260	*	ug/Kg		130	63 - 123	
trans-1,3-Dichloropropene	200	202		ug/Kg		101	65 - 129	
Trichloroethene	200	248	*	ug/Kg		124	68 - 118	
Vinyl chloride	200	163		ug/Kg		82	43 - 131	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		81 - 121
4-Bromofluorobenzene (Surr)	98		79 - 120
Dibromofluoromethane (Surr)	96		78 - 118
Toluene-d8 (Surr)	103		79 - 119
Trifluorotoluene (Surr)	95		52 - 152

**Lab Sample ID: LCSD 580-310305/3-A**

**Matrix: Solid**

**Analysis Batch: 310347**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	200	224		ug/Kg		112	65 - 123	2	20
1,1,2,2-Tetrachloroethane	200	227		ug/Kg		113	65 - 125	6	22
1,1,2-Trichloroethane	200	227		ug/Kg		113	69 - 117	3	18
1,1-Dichloroethene	200	268	*	ug/Kg		134	58 - 123	1	23
1,2-Dibromoethane	200	223		ug/Kg		112	69 - 119	3	15
1,2-Dichloroethane	200	187		ug/Kg		93	71 - 121	3	18
1,4-Dichlorobenzene	200	229		ug/Kg		115	71 - 117	5	18
Benzene	200	243	*	ug/Kg		121	70 - 118	2	19
Bromodichloromethane	200	209		ug/Kg		104	75 - 119	2	19
Bromoform	200	202		ug/Kg		101	50 - 124	3	16
Bromomethane	200	205		ug/Kg		103	41 - 148	2	29
Chloroform	200	223		ug/Kg		112	72 - 125	1	17
cis-1,3-Dichloropropene	200	219		ug/Kg		109	69 - 129	2	19
Dibromochloromethane	200	214		ug/Kg		107	64 - 129	3	14

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 580-310305/3-A**

**Matrix: Solid**

**Analysis Batch: 310347**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromomethane	200	215		ug/Kg		107	64 - 126	3	18
Hexachlorobutadiene	200	227		ug/Kg		114	58 - 128	3	29
Naphthalene	200	283	*	ug/Kg		142	45 - 141	1	34
Tetrachloroethene	200	250	*	ug/Kg		125	63 - 123	4	20
trans-1,3-Dichloropropene	200	196		ug/Kg		98	65 - 129	3	20
Trichloroethene	200	245	*	ug/Kg		122	68 - 118	1	17
Vinyl chloride	200	155		ug/Kg		78	43 - 131	5	40

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		81 - 121
4-Bromofluorobenzene (Surr)	94		79 - 120
Dibromofluoromethane (Surr)	96		78 - 118
Toluene-d8 (Surr)	103		79 - 119
Trifluorotoluene (Surr)	96		52 - 152

**Lab Sample ID: MB 580-311201/1-A**

**Matrix: Solid**

**Analysis Batch: 311181**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 311201**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.28	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,1,2,2-Tetrachloroethane	ND		10	1.4	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,1,2-Trichloroethane	ND		5.0	0.46	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,1-Dichloroethene	ND		5.0	0.62	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,2-Dibromoethane	ND		5.0	0.45	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,2-Dichloroethane	ND		5.0	0.63	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
1,4-Dichlorobenzene	ND		5.0	0.32	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Benzene	ND		5.0	0.42	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Bromodichloromethane	ND		5.0	0.32	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Bromoform	ND		5.0	1.1	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Bromomethane	ND		5.0	0.74	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Chloroform	0.409	J	5.0	0.30	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
cis-1,3-Dichloropropene	ND		5.0	0.37	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Dibromochloromethane	ND		5.0	0.57	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Dibromomethane	ND		5.0	0.59	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Hexachlorobutadiene	7.48		5.0	0.66	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Naphthalene	12.6		5.0	0.91	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Tetrachloroethene	ND		5.0	0.63	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Trichloroethene	ND		5.0	0.43	ug/Kg		09/14/19 14:31	09/14/19 18:20	1
Vinyl chloride	ND		20	2.4	ug/Kg		09/14/19 14:31	09/14/19 18:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		81 - 121			1
4-Bromofluorobenzene (Surr)	102		79 - 120			1
Dibromofluoromethane (Surr)	99		78 - 118			1
Toluene-d8 (Surr)	101		79 - 119			1
Trifluorotoluene (Surr)	100		52 - 152			1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: LCS 580-311201/2-A**

**Matrix: Solid**

**Analysis Batch: 311181**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 311201**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	200	171		ug/Kg		86	65 - 123	
1,1,2,2-Tetrachloroethane	200	155		ug/Kg		77	65 - 125	
1,1,2-Trichloroethane	200	168		ug/Kg		84	69 - 117	
1,1-Dichloroethene	200	182		ug/Kg		91	58 - 123	
1,2-Dibromoethane	200	162		ug/Kg		81	69 - 119	
1,2-Dichloroethane	200	161		ug/Kg		81	71 - 121	
1,4-Dichlorobenzene	200	175		ug/Kg		87	71 - 117	
Benzene	200	169		ug/Kg		84	70 - 118	
Bromodichloromethane	200	166		ug/Kg		83	75 - 119	
Bromoform	200	154		ug/Kg		77	50 - 124	
Bromomethane	200	207		ug/Kg		104	41 - 148	
Chloroform	200	169		ug/Kg		84	72 - 125	
cis-1,3-Dichloropropene	200	163		ug/Kg		81	69 - 129	
Dibromochloromethane	200	162		ug/Kg		81	64 - 129	
Dibromomethane	200	162		ug/Kg		81	64 - 126	
Hexachlorobutadiene	200	190		ug/Kg		95	58 - 128	
Naphthalene	200	155		ug/Kg		78	45 - 141	
Tetrachloroethene	200	182		ug/Kg		91	63 - 123	
trans-1,3-Dichloropropene	200	161		ug/Kg		80	65 - 129	
Trichloroethene	200	173		ug/Kg		87	68 - 118	
Vinyl chloride	200	189		ug/Kg		95	43 - 131	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		81 - 121
4-Bromofluorobenzene (Surr)	98		79 - 120
Dibromofluoromethane (Surr)	99		78 - 118
Toluene-d8 (Surr)	102		79 - 119
Trifluorotoluene (Surr)	99		52 - 152

**Lab Sample ID: LCSD 580-311201/3-A**

**Matrix: Solid**

**Analysis Batch: 311181**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 311201**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	200	179		ug/Kg		90	65 - 123	5	20
1,1,2,2-Tetrachloroethane	200	166		ug/Kg		83	65 - 125	7	22
1,1,2-Trichloroethane	200	178		ug/Kg		89	69 - 117	6	18
1,1-Dichloroethene	200	193		ug/Kg		97	58 - 123	6	23
1,2-Dibromoethane	200	172		ug/Kg		86	69 - 119	6	15
1,2-Dichloroethane	200	169		ug/Kg		84	71 - 121	5	18
1,4-Dichlorobenzene	200	182		ug/Kg		91	71 - 117	4	18
Benzene	200	176		ug/Kg		88	70 - 118	4	19
Bromodichloromethane	200	174		ug/Kg		87	75 - 119	5	19
Bromoform	200	166		ug/Kg		83	50 - 124	7	16
Bromomethane	200	204		ug/Kg		102	41 - 148	2	29
Chloroform	200	178		ug/Kg		89	72 - 125	5	17
cis-1,3-Dichloropropene	200	171		ug/Kg		86	69 - 129	5	19
Dibromochloromethane	200	173		ug/Kg		86	64 - 129	6	14

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** LCSD 580-311201/3-A

**Client Sample ID:** Lab Control Sample Dup

**Matrix:** Solid

**Prep Type:** Total/NA

**Analysis Batch:** 311181

**Prep Batch:** 311201

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromomethane	200	174		ug/Kg		87	64 - 126	7	18
Hexachlorobutadiene	200	201		ug/Kg		101	58 - 128	6	29
Naphthalene	200	175		ug/Kg		87	45 - 141	12	34
Tetrachloroethene	200	193		ug/Kg		97	63 - 123	6	20
trans-1,3-Dichloropropene	200	170		ug/Kg		85	65 - 129	6	20
Trichloroethene	200	180		ug/Kg		90	68 - 118	4	17
Vinyl chloride	200	205		ug/Kg		103	43 - 131	8	40

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		81 - 121
4-Bromofluorobenzene (Surr)	98		79 - 120
Dibromofluoromethane (Surr)	99		78 - 118
Toluene-d8 (Surr)	102		79 - 119
Trifluorotoluene (Surr)	99		52 - 152

## Method: 8270D - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID:** MB 580-310035/1-A

**Client Sample ID:** Method Blank

**Matrix:** Solid

**Prep Type:** Total/NA

**Analysis Batch:** 310262

**Prep Batch:** 310035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50	6.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
1,2-Dichlorobenzene	ND		50	12	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
1,3-Dichlorobenzene	ND		50	4.8	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
1,4-Dichlorobenzene	ND		50	8.3	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
1-Methylnaphthalene	ND		30	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2,4,5-Trichlorophenol	ND		200	45	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2,4-Dichlorophenol	ND		100	15	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2,4-Dimethylphenol	ND		100	15	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Chloronaphthalene	ND		25	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Chlorophenol	ND		200	13	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Methylnaphthalene	ND		50	8.8	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Methylphenol	ND		150	9.8	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Nitroaniline	ND		100	15	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
2-Nitrophenol	ND		200	21	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
3 & 4 Methylphenol	ND		200	15	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
3-Nitroaniline	ND		200	40	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4-Bromophenyl phenyl ether	ND		200	9.1	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4-Chloro-3-methylphenol	ND		150	33	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4-Chlorophenyl phenyl ether	ND		200	6.3	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4-Nitroaniline	ND		150	50	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
4-Nitrophenol	ND		1500	370	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
Acenaphthene	ND		25	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
Acenaphthylene	ND		25	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
Anthracene	ND		25	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
Benzo[a]anthracene	ND		25	5.0	ug/Kg		09/03/19 09:39	09/05/19 11:18	1
Benzo[a]pyrene	ND		60	13	ug/Kg		09/03/19 09:39	09/05/19 11:18	1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 580-310035/1-A**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		25	5.0	ug/Kg				1
Benzo[g,h,i]perylene	ND		60	9.0	ug/Kg				1
Benzo[k]fluoranthene	ND		60	14	ug/Kg				1
Benzoic acid	ND		2000	580	ug/Kg				1
Benzyl alcohol	ND		500	77	ug/Kg				1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg				1
Bis(2-ethylhexyl) phthalate	ND		600	71	ug/Kg				1
bis(chloroisopropyl) ether	ND		200	14	ug/Kg				1
Butyl benzyl phthalate	51.8	J	200	51	ug/Kg				1
Carbazole	ND		150	8.2	ug/Kg				1
Chrysene	ND		60	13	ug/Kg				1
Dibenz(a,h)anthracene	ND		50	12	ug/Kg				1
Dibenzofuran	ND		150	5.9	ug/Kg				1
Diethyl phthalate	ND		1500	76	ug/Kg				1
Dimethyl phthalate	ND		150	13	ug/Kg				1
Di-n-butyl phthalate	ND		500	57	ug/Kg				1
Di-n-octyl phthalate	ND		150	57	ug/Kg				1
Fluoranthene	ND		25	5.0	ug/Kg				1
Fluorene	ND		25	5.0	ug/Kg				1
Indeno[1,2,3-cd]pyrene	ND		40	5.0	ug/Kg				1
Isophorone	ND		150	7.4	ug/Kg				1
Naphthalene	ND		25	5.0	ug/Kg				1
N-Nitrosodiphenylamine	ND		60	8.0	ug/Kg				1
Phenanthrene	ND		60	12	ug/Kg				1
Phenol	ND		150	23	ug/Kg				1
Pyrene	ND		60	6.4	ug/Kg				1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	54		52 - 125			1
2-Fluorobiphenyl	90		57 - 120			1
2-Fluorophenol (Surr)	77		60 - 125			1
Nitrobenzene-d5 (Surr)	93		62 - 120			1
Phenol-d5 (Surr)	86		59 - 120			1
Terphenyl-d14 (Surr)	105		58 - 120			1

**Lab Sample ID: LCS 580-310035/2-A**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	1000	941		ug/Kg		94	66 - 120
1,2-Dichlorobenzene	1000	885		ug/Kg		88	62 - 120
1,3-Dichlorobenzene	1000	853		ug/Kg		85	64 - 120
1,4-Dichlorobenzene	1000	832		ug/Kg		83	57 - 120
1-Methylnaphthalene	1000	935		ug/Kg		94	69 - 120
2,4,5-Trichlorophenol	1000	883		ug/Kg		88	64 - 120
2,4-Dichlorophenol	1000	984		ug/Kg		98	63 - 121
2,4-Dimethylphenol	1000	904		ug/Kg		90	37 - 129

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 580-310035/2-A**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Chloronaphthalene	1000	864		ug/Kg		86	65 - 120
2-Chlorophenol	1000	920		ug/Kg		92	66 - 120
2-Methylnaphthalene	1000	935		ug/Kg		93	65 - 120
2-Methylphenol	1000	913		ug/Kg		91	61 - 120
2-Nitroaniline	1000	947		ug/Kg		95	63 - 126
2-Nitrophenol	1000	1080		ug/Kg		108	58 - 130
3 & 4 Methylphenol	1000	839		ug/Kg		84	60 - 120
3-Nitroaniline	1000	805		ug/Kg		80	34 - 120
4,6-Dinitro-2-methylphenol	2000	2100		ug/Kg		105	13 - 150
4-Bromophenyl phenyl ether	1000	835		ug/Kg		84	65 - 120
4-Chloro-3-methylphenol	1000	778		ug/Kg		78	61 - 120
4-Chlorophenyl phenyl ether	1000	952		ug/Kg		95	64 - 120
4-Nitroaniline	1000	890		ug/Kg		89	49 - 128
4-Nitrophenol	2000	1620		ug/Kg		81	27 - 150
Acenaphthene	1000	846		ug/Kg		85	64 - 120
Acenaphthylene	1000	915		ug/Kg		91	63 - 120
Anthracene	1000	939		ug/Kg		94	67 - 120
Benzo[a]anthracene	1000	1110		ug/Kg		111	66 - 120
Benzo[a]pyrene	1000	1050		ug/Kg		105	72 - 121
Benzo[b]fluoranthene	1000	991		ug/Kg		99	71 - 130
Benzo[g,h,i]perylene	1000	1070		ug/Kg		107	59 - 134
Benzo[k]fluoranthene	1000	1080		ug/Kg		108	68 - 123
Benzoic acid	2000	1110	J	ug/Kg		56	10 - 120
Benzyl alcohol	1000	124	J *	ug/Kg		12	28 - 134
Bis(2-chloroethoxy)methane	1000	863		ug/Kg		86	60 - 120
Bis(2-ethylhexyl) phthalate	1000	1170		ug/Kg		117	59 - 136
bis(chloroisopropyl) ether	1000	1080		ug/Kg		108	42 - 134
Butyl benzyl phthalate	1000	1190		ug/Kg		119	59 - 141
Carbazole	1000	1500	*	ug/Kg		150	70 - 137
Chrysene	1000	1030		ug/Kg		103	63 - 120
Dibenz(a,h)anthracene	1000	1030		ug/Kg		103	59 - 132
Dibenzofuran	1000	940		ug/Kg		94	68 - 120
Diethyl phthalate	1000	1020	J	ug/Kg		102	53 - 126
Dimethyl phthalate	1000	974		ug/Kg		97	66 - 120
Di-n-butyl phthalate	1000	992		ug/Kg		99	59 - 129
Di-n-octyl phthalate	1000	1270		ug/Kg		127	53 - 144
Fluoranthene	1000	1030		ug/Kg		103	69 - 120
Fluorene	1000	885		ug/Kg		89	68 - 121
Indeno[1,2,3-cd]pyrene	1000	1050		ug/Kg		105	52 - 139
Isophorone	1000	942		ug/Kg		94	61 - 128
Naphthalene	1000	839		ug/Kg		84	68 - 120
N-Nitrosodiphenylamine	1000	942		ug/Kg		94	67 - 120
Phenanthrene	1000	905		ug/Kg		91	68 - 120
Phenol	1000	785		ug/Kg		79	59 - 120
Pyrene	1000	1060		ug/Kg		106	73 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surrogate)	87		52 - 125

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 580-310035/2-A**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	93		57 - 120
2-Fluorophenol (Surr)	96		60 - 125
Nitrobenzene-d5 (Surr)	104		62 - 120
Phenol-d5 (Surr)	94		59 - 120
Terphenyl-d14 (Surr)	100		58 - 120

**Lab Sample ID: 580-88695-11 MS**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	%Rec.
	Result	Qualifier	Added	Result	Qualifier					
1,2,4-Trichlorobenzene	ND		1160	1080		ug/Kg	⊗	93	66 - 120	
1,2-Dichlorobenzene	ND		1160	1060		ug/Kg	⊗	92	62 - 120	
1,3-Dichlorobenzene	ND		1160	1020		ug/Kg	⊗	88	64 - 120	
1,4-Dichlorobenzene	ND		1160	1030		ug/Kg	⊗	89	57 - 120	
1-Methylnaphthalene	ND		1160	1100		ug/Kg	⊗	95	69 - 120	
2,4,5-Trichlorophenol	ND		1160	1160		ug/Kg	⊗	100	64 - 120	
2,4-Dichlorophenol	ND		1160	1220		ug/Kg	⊗	106	63 - 121	
2,4-Dimethylphenol	ND		1160	1180		ug/Kg	⊗	102	37 - 129	
2-Chloronaphthalene	ND		1160	1040		ug/Kg	⊗	90	65 - 120	
2-Chlorophenol	ND		1160	1150		ug/Kg	⊗	99	66 - 120	
2-Methylnaphthalene	ND		1160	1090		ug/Kg	⊗	94	65 - 120	
2-Methylphenol	ND		1160	1000		ug/Kg	⊗	87	61 - 120	
2-Nitroaniline	ND		1160	1150		ug/Kg	⊗	100	63 - 126	
2-Nitrophenol	ND		1160	1330		ug/Kg	⊗	115	58 - 130	
3 & 4 Methylphenol	ND		1160	1080		ug/Kg	⊗	93	60 - 120	
3-Nitroaniline	ND		1160	741		ug/Kg	⊗	64	34 - 120	
4,6-Dinitro-2-methylphenol	ND F2		2320	1820		ug/Kg	⊗	79	13 - 150	
4-Bromophenyl phenyl ether	ND		1160	1070		ug/Kg	⊗	92	65 - 120	
4-Chloro-3-methylphenol	ND		1160	1090		ug/Kg	⊗	94	61 - 120	
4-Chlorophenyl phenyl ether	ND		1160	1090		ug/Kg	⊗	94	64 - 120	
4-Nitroaniline	ND F2		1160	1120		ug/Kg	⊗	96	49 - 128	
4-Nitrophenol	ND		2320	2290		ug/Kg	⊗	99	27 - 150	
Acenaphthene	ND		1160	1030		ug/Kg	⊗	89	64 - 120	
Acenaphthylene	ND		1160	1140		ug/Kg	⊗	99	63 - 120	
Anthracene	ND		1160	1150		ug/Kg	⊗	99	67 - 120	
Benzo[a]anthracene	ND		1160	1250		ug/Kg	⊗	108	66 - 120	
Benzo[a]pyrene	ND		1160	1110		ug/Kg	⊗	96	72 - 121	
Benzo[b]fluoranthene	ND		1160	1070		ug/Kg	⊗	92	71 - 130	
Benzo[g,h,i]perylene	ND		1160	1140		ug/Kg	⊗	98	59 - 134	
Benzo[k]fluoranthene	ND		1160	1100		ug/Kg	⊗	95	68 - 123	
Benzoic acid	ND F1		2320	2940 F1		ug/Kg	⊗	127	10 - 120	
Benzyl alcohol	ND F1 *		1160	206 J F1		ug/Kg	⊗	18	28 - 134	
Bis(2-chloroethoxy)methane	ND		1160	1120		ug/Kg	⊗	97	60 - 120	
Bis(2-ethylhexyl) phthalate	ND		1160	1490		ug/Kg	⊗	128	59 - 136	
bis(chloroisopropyl) ether	ND		1160	1290		ug/Kg	⊗	111	42 - 134	
Butyl benzyl phthalate	66 J B		1160	1450		ug/Kg	⊗	119	59 - 141	
Carbazole	ND F1 *		1160	1930 F1		ug/Kg	⊗	167	70 - 137	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 580-88695-11 MS**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	Limits
Chrysene	ND		1160	1130		ug/Kg	⊗	97	63 - 120	
Dibenz(a,h)anthracene	ND		1160	1010		ug/Kg	⊗	87	59 - 132	
Dibenzofuran	ND		1160	1140		ug/Kg	⊗	99	68 - 120	
Diethyl phthalate	ND		1160	1240	J	ug/Kg	⊗	107	53 - 126	
Dimethyl phthalate	ND		1160	1200		ug/Kg	⊗	104	66 - 120	
Di-n-butyl phthalate	ND		1160	1300		ug/Kg	⊗	112	59 - 129	
Di-n-octyl phthalate	ND		1160	1590		ug/Kg	⊗	138	53 - 144	
Fluoranthene	ND		1160	1250		ug/Kg	⊗	108	69 - 120	
Fluorene	ND		1160	1060		ug/Kg	⊗	91	68 - 121	
Indeno[1,2,3-cd]pyrene	ND		1160	1140		ug/Kg	⊗	99	52 - 139	
Isophorone	ND		1160	1230		ug/Kg	⊗	106	61 - 128	
Naphthalene	ND		1160	1020		ug/Kg	⊗	88	68 - 120	
N-Nitrosodiphenylamine	ND		1160	1190		ug/Kg	⊗	103	67 - 120	
Phenanthrene	ND		1160	1120		ug/Kg	⊗	96	68 - 120	
Phenol	ND		1160	1020		ug/Kg	⊗	88	59 - 120	
Pyrene	ND		1160	1300		ug/Kg	⊗	112	73 - 120	
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>		<b>MS Limits</b>						
2,4,6-Tribromophenol (Surr)	102			52 - 125						
2-Fluorobiphenyl	93			57 - 120						
2-Fluorophenol (Surr)	102			60 - 125						
Nitrobenzene-d5 (Surr)	107			62 - 120						
Phenol-d5 (Surr)	100			59 - 120						
Terphenyl-d14 (Surr)	103			58 - 120						

**Lab Sample ID: 580-88695-11 MSD**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	Limit
1,2,4-Trichlorobenzene	ND		1120	1050		ug/Kg	⊗	94	66 - 120	3	18
1,2-Dichlorobenzene	ND		1120	914		ug/Kg	⊗	82	62 - 120	15	30
1,3-Dichlorobenzene	ND		1120	862		ug/Kg	⊗	77	64 - 120	16	29
1,4-Dichlorobenzene	ND		1120	868		ug/Kg	⊗	78	57 - 120	17	35
1-Methylnaphthalene	ND		1120	1060		ug/Kg	⊗	95	69 - 120	4	24
2,4,5-Trichlorophenol	ND		1120	1140		ug/Kg	⊗	102	64 - 120	2	23
2,4-Dichlorophenol	ND		1120	1130		ug/Kg	⊗	101	63 - 121	8	19
2,4-Dimethylphenol	ND		1120	1060		ug/Kg	⊗	95	37 - 129	10	40
2-Chloronaphthalene	ND		1120	972		ug/Kg	⊗	87	65 - 120	7	21
2-Chlorophenol	ND		1120	989		ug/Kg	⊗	88	66 - 120	15	32
2-Methylnaphthalene	ND		1120	1030		ug/Kg	⊗	92	65 - 120	6	21
2-Methylphenol	ND		1120	1020		ug/Kg	⊗	91	61 - 120	2	40
2-Nitroaniline	ND		1120	1110		ug/Kg	⊗	99	63 - 126	4	16
2-Nitrophenol	ND		1120	1240		ug/Kg	⊗	111	58 - 130	8	30
3 & 4 Methylphenol	ND		1120	981		ug/Kg	⊗	88	60 - 120	10	36
3-Nitroaniline	ND		1120	745		ug/Kg	⊗	67	34 - 120	0	25
4,6-Dinitro-2-methylphenol	ND	F2	2230	1200	F2	ug/Kg	⊗	54	13 - 150	41	40
4-Bromophenyl phenyl ether	ND		1120	1010		ug/Kg	⊗	90	65 - 120	6	32

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 580-88695-11 MSD**

**Matrix: Solid**

**Analysis Batch: 310262**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloro-3-methylphenol	ND		1120	985		ug/Kg	⊗	88	61 - 120	10	25
4-Chlorophenyl phenyl ether	ND		1120	1070		ug/Kg	⊗	96	64 - 120	2	21
4-Nitroaniline	ND	F2	1120	850	F2	ug/Kg	⊗	76	49 - 128	27	23
4-Nitrophenol	ND		2230	2230		ug/Kg	⊗	100	27 - 150	3	31
Acenaphthene	ND		1120	962		ug/Kg	⊗	86	64 - 120	7	19
Acenaphthylene	ND		1120	1040		ug/Kg	⊗	93	63 - 120	9	18
Anthracene	ND		1120	1120		ug/Kg	⊗	101	67 - 120	2	28
Benzo[a]anthracene	ND		1120	1330		ug/Kg	⊗	119	66 - 120	6	21
Benzo[a]pyrene	ND		1120	1040		ug/Kg	⊗	93	72 - 121	6	27
Benzo[b]fluoranthene	ND		1120	1040		ug/Kg	⊗	93	71 - 130	3	25
Benzo[g,h,i]perylene	ND		1120	1060		ug/Kg	⊗	94	59 - 134	8	26
Benzo[k]fluoranthene	ND		1120	981		ug/Kg	⊗	88	68 - 123	11	18
Benzoic acid	ND	F1	2230	2920	F1	ug/Kg	⊗	131	10 - 120	1	40
Benzyl alcohol	ND	F1 *	1120	222	J F1	ug/Kg	⊗	20	28 - 134	7	40
Bis(2-chloroethoxy)methane	ND		1120	968		ug/Kg	⊗	87	60 - 120	15	33
Bis(2-ethylhexyl) phthalate	ND		1120	1500		ug/Kg	⊗	134	59 - 136	1	25
bis(chloroisopropyl) ether	ND		1120	1110		ug/Kg	⊗	99	42 - 134	15	33
Butyl benzyl phthalate	66	J B	1120	1500		ug/Kg	⊗	129	59 - 141	4	27
Carbazole	ND	F1 *	1120	1830	F1	ug/Kg	⊗	164	70 - 137	6	24
Chrysene	ND		1120	1130		ug/Kg	⊗	101	63 - 120	0	27
Dibenz(a,h)anthracene	ND		1120	1020		ug/Kg	⊗	91	59 - 132	1	29
Dibenzofuran	ND		1120	1080		ug/Kg	⊗	97	68 - 120	6	18
Diethyl phthalate	ND		1120	1220	J	ug/Kg	⊗	109	53 - 126	1	22
Dimethyl phthalate	ND		1120	1150		ug/Kg	⊗	103	66 - 120	4	21
Di-n-butyl phthalate	ND		1120	1240		ug/Kg	⊗	111	59 - 129	5	26
Di-n-octyl phthalate	ND		1120	1500		ug/Kg	⊗	134	53 - 144	6	18
Fluoranthene	ND		1120	1200		ug/Kg	⊗	108	69 - 120	4	21
Fluorene	ND		1120	1030		ug/Kg	⊗	92	68 - 121	3	17
Indeno[1,2,3-cd]pyrene	ND		1120	1090		ug/Kg	⊗	98	52 - 139	5	30
Isophorone	ND		1120	1060		ug/Kg	⊗	95	61 - 128	14	31
Naphthalene	ND		1120	927		ug/Kg	⊗	83	68 - 120	9	15
N-Nitrosodiphenylamine	ND		1120	1130		ug/Kg	⊗	102	67 - 120	5	30
Phenanthrene	ND		1120	1050		ug/Kg	⊗	94	68 - 120	6	27
Phenol	ND		1120	889		ug/Kg	⊗	80	59 - 120	14	30
Pyrene	ND		1120	1240		ug/Kg	⊗	111	73 - 120	5	24

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	93		52 - 125
2-Fluorobiphenyl	91		57 - 120
2-Fluorophenol (Surr)	92		60 - 125
Nitrobenzene-d5 (Surr)	106		62 - 120
Phenol-d5 (Surr)	93		59 - 120
Terphenyl-d14 (Surr)	102		58 - 120

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 580-310147/1-A**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		50	6.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
1,2-Dichlorobenzene	ND		50	12	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
1,3-Dichlorobenzene	ND		50	4.8	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
1,4-Dichlorobenzene	ND		50	8.3	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
1-Methylnaphthalene	ND		30	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2,4,5-Trichlorophenol	ND		200	45	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2,4-Dichlorophenol	ND		100	15	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2,4-Dimethylphenol	ND		100	15	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Chloronaphthalene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Chlorophenol	ND		200	13	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Methylnaphthalene	ND		50	8.8	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Methylphenol	ND		150	9.8	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Nitroaniline	ND		100	15	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
2-Nitrophenol	ND		200	21	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
3 & 4 Methylphenol	ND		200	15	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
3-Nitroaniline	ND		200	40	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4,6-Dinitro-2-methylphenol	ND		1000	100	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4-Bromophenyl phenyl ether	ND		200	9.1	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4-Chloro-3-methylphenol	ND		150	33	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4-Chlorophenyl phenyl ether	ND		200	6.3	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4-Nitroaniline	ND		150	50	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
4-Nitrophenol	ND		1500	370	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Acenaphthene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Acenaphthylene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Anthracene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzo[a]anthracene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzo[a]pyrene	ND		60	13	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzo[b]fluoranthene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzo[g,h,i]perylene	ND		60	9.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzo[k]fluoranthene	ND		60	14	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzoic acid	ND		2000	580	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Benzyl alcohol	ND		500	77	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Bis(2-chloroethoxy)methane	ND		200	18	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Bis(2-ethylhexyl) phthalate	ND		600	71	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
bis(chloroisopropyl) ether	ND		200	14	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Butyl benzyl phthalate	ND		200	51	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Carbazole	ND		150	8.2	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Chrysene	ND		60	13	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Dibenz(a,h)anthracene	ND		50	12	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Dibenzofuran	ND		150	5.9	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Diethyl phthalate	ND		1500	76	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Dimethyl phthalate	ND		150	13	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Di-n-butyl phthalate	ND		500	57	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Di-n-octyl phthalate	ND		150	57	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Fluoranthene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Fluorene	ND		25	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Indeno[1,2,3-cd]pyrene	ND		40	5.0	ug/Kg	09/04/19 09:12	09/06/19 16:43		1
Isophorone	ND		150	7.4	ug/Kg	09/04/19 09:12	09/06/19 16:43		1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 580-310147/1-A**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		25	5.0	ug/Kg		09/04/19 09:12	09/06/19 16:43	1
N-Nitrosodiphenylamine	ND		60	8.0	ug/Kg		09/04/19 09:12	09/06/19 16:43	1
Phenanthrene	ND		60	12	ug/Kg		09/04/19 09:12	09/06/19 16:43	1
Phenol	ND		150	23	ug/Kg		09/04/19 09:12	09/06/19 16:43	1
Pyrene	ND		60	6.4	ug/Kg		09/04/19 09:12	09/06/19 16:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	67		52 - 125	09/04/19 09:12	09/06/19 16:43	1
2-Fluorobiphenyl	93		57 - 120	09/04/19 09:12	09/06/19 16:43	1
2-Fluorophenol (Surr)	92		60 - 125	09/04/19 09:12	09/06/19 16:43	1
Nitrobenzene-d5 (Surr)	104		62 - 120	09/04/19 09:12	09/06/19 16:43	1
Phenol-d5 (Surr)	91		59 - 120	09/04/19 09:12	09/06/19 16:43	1
Terphenyl-d14 (Surr)	100		58 - 120	09/04/19 09:12	09/06/19 16:43	1

**Lab Sample ID: LCS 580-310147/2-A**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,2,4-Trichlorobenzene	1000	959		ug/Kg		96	66 - 120	
1,2-Dichlorobenzene	1000	917		ug/Kg		92	62 - 120	
1,3-Dichlorobenzene	1000	879		ug/Kg		88	64 - 120	
1,4-Dichlorobenzene	1000	876		ug/Kg		88	57 - 120	
1-Methylnaphthalene	1000	949		ug/Kg		95	69 - 120	
2,4,5-Trichlorophenol	1000	895		ug/Kg		90	64 - 120	
2,4-Dichlorophenol	1000	1010		ug/Kg		101	63 - 121	
2,4-Dimethylphenol	1000	983		ug/Kg		98	37 - 129	
2-Chloronaphthalene	1000	862		ug/Kg		86	65 - 120	
2-Chlorophenol	1000	969		ug/Kg		97	66 - 120	
2-Methylnaphthalene	1000	935		ug/Kg		94	65 - 120	
2-Methylphenol	1000	914		ug/Kg		91	61 - 120	
2-Nitroaniline	1000	899		ug/Kg		90	63 - 126	
2-Nitrophenol	1000	1150		ug/Kg		115	58 - 130	
3 & 4 Methylphenol	1000	878		ug/Kg		88	60 - 120	
3-Nitroaniline	1000	806		ug/Kg		81	34 - 120	
4,6-Dinitro-2-methylphenol	2000	2060		ug/Kg		103	13 - 150	
4-Bromophenyl phenyl ether	1000	841		ug/Kg		84	65 - 120	
4-Chloro-3-methylphenol	1000	893		ug/Kg		89	61 - 120	
4-Chlorophenyl phenyl ether	1000	925		ug/Kg		92	64 - 120	
4-Nitroaniline	1000	1030		ug/Kg		103	49 - 128	
4-Nitrophenol	2000	1650		ug/Kg		83	27 - 150	
Acenaphthene	1000	844		ug/Kg		84	64 - 120	
Acenaphthylene	1000	933		ug/Kg		93	63 - 120	
Anthracene	1000	937		ug/Kg		94	67 - 120	
Benzo[a]anthracene	1000	1110		ug/Kg		111	66 - 120	
Benzo[a]pyrene	1000	970		ug/Kg		97	72 - 121	
Benzo[b]fluoranthene	1000	1000		ug/Kg		100	71 - 130	
Benzo[g,h,i]perylene	1000	987		ug/Kg		99	59 - 134	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 580-310147/2-A**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzo[k]fluoranthene	1000	944		ug/Kg		94	68 - 123
Benzoic acid	2000	1240	J	ug/Kg		62	10 - 120
Benzyl alcohol	1000	347	J	ug/Kg		35	28 - 134
Bis(2-chloroethoxy)methane	1000	927		ug/Kg		93	60 - 120
Bis(2-ethylhexyl) phthalate	1000	1180		ug/Kg		118	59 - 136
bis(chloroisopropyl) ether	1000	1120		ug/Kg		112	42 - 134
Butyl benzyl phthalate	1000	1220		ug/Kg		122	59 - 141
Carbazole	1000	1400	*	ug/Kg		140	70 - 137
Chrysene	1000	975		ug/Kg		97	63 - 120
Dibenz(a,h)anthracene	1000	950		ug/Kg		95	59 - 132
Dibenzofuran	1000	923		ug/Kg		92	68 - 120
Diethyl phthalate	1000	993	J	ug/Kg		99	53 - 126
Dimethyl phthalate	1000	940		ug/Kg		94	66 - 120
Di-n-butyl phthalate	1000	960		ug/Kg		96	59 - 129
Di-n-octyl phthalate	1000	1230		ug/Kg		123	53 - 144
Fluoranthene	1000	980		ug/Kg		98	69 - 120
Fluorene	1000	871		ug/Kg		87	68 - 121
Indeno[1,2,3-cd]pyrene	1000	947		ug/Kg		95	52 - 139
Isophorone	1000	997		ug/Kg		100	61 - 128
Naphthalene	1000	870		ug/Kg		87	68 - 120
N-Nitrosodiphenylamine	1000	926		ug/Kg		93	67 - 120
Phenanthrene	1000	898		ug/Kg		90	68 - 120
Phenol	1000	902		ug/Kg		90	59 - 120
Pyrene	1000	1010		ug/Kg		101	73 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surrogate)	93		52 - 125
2-Fluorobiphenyl	91		57 - 120
2-Fluorophenol (Surrogate)	98		60 - 125
Nitrobenzene-d5 (Surrogate)	111		62 - 120
Phenol-d5 (Surrogate)	98		59 - 120
Terphenyl-d14 (Surrogate)	96		58 - 120

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	ND		1150	944		ug/Kg	⊗	82	66 - 120
1,2-Dichlorobenzene	ND		1150	862		ug/Kg	⊗	75	62 - 120
1,3-Dichlorobenzene	ND		1150	797		ug/Kg	⊗	69	64 - 120
1,4-Dichlorobenzene	ND		1150	807		ug/Kg	⊗	70	57 - 120
1-Methylnaphthalene	ND		1150	1000		ug/Kg	⊗	87	69 - 120
2,4,5-Trichlorophenol	ND		1150	1290		ug/Kg	⊗	112	64 - 120
2,4-Dichlorophenol	ND		1150	1160		ug/Kg	⊗	100	63 - 121
2,4-Dimethylphenol	ND		1150	1070		ug/Kg	⊗	93	37 - 129
2-Chloronaphthalene	ND		1150	983		ug/Kg	⊗	85	65 - 120
2-Chlorophenol	ND		1150	1010		ug/Kg	⊗	87	66 - 120

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
2-Methylnaphthalene	ND		1150	976		ug/Kg	⊗	85	65 - 120
2-Methylphenol	ND		1150	1030		ug/Kg	⊗	90	61 - 120
2-Nitroaniline	ND		1150	1130		ug/Kg	⊗	98	63 - 126
2-Nitrophenol	ND		1150	1250		ug/Kg	⊗	108	58 - 130
3 & 4 Methylphenol	ND		1150	921		ug/Kg	⊗	80	60 - 120
3-Nitroaniline	ND		1150	718		ug/Kg	⊗	62	34 - 120
4,6-Dinitro-2-methylphenol	ND		2300	1600		ug/Kg	⊗	70	13 - 150
4-Bromophenyl phenyl ether	ND		1150	911		ug/Kg	⊗	79	65 - 120
4-Chloro-3-methylphenol	ND		1150	1070		ug/Kg	⊗	93	61 - 120
4-Chlorophenyl phenyl ether	ND		1150	1080		ug/Kg	⊗	94	64 - 120
4-Nitroaniline	ND F2		1150	654		ug/Kg	⊗	57	49 - 128
4-Nitrophenol	ND		2300	2590		ug/Kg	⊗	113	27 - 150
Acenaphthene	ND		1150	981		ug/Kg	⊗	85	64 - 120
Acenaphthylene	ND		1150	1070		ug/Kg	⊗	93	63 - 120
Anthracene	ND		1150	1010		ug/Kg	⊗	88	67 - 120
Benzo[a]anthracene	ND		1150	1230		ug/Kg	⊗	107	66 - 120
Benzo[a]pyrene	ND		1150	999		ug/Kg	⊗	87	72 - 121
Benzo[b]fluoranthene	ND		1150	1030		ug/Kg	⊗	90	71 - 130
Benzo[g,h,i]perylene	ND		1150	1040		ug/Kg	⊗	90	59 - 134
Benzo[k]fluoranthene	ND		1150	890		ug/Kg	⊗	77	68 - 123
Benzoic acid	ND F1		2300	3050	F1	ug/Kg	⊗	133	10 - 120
Benzyl alcohol	ND		1150	322 J		ug/Kg	⊗	28	28 - 134
Bis(2-chloroethoxy)methane	ND		1150	969		ug/Kg	⊗	84	60 - 120
Bis(2-ethylhexyl) phthalate	ND		1150	1550		ug/Kg	⊗	135	59 - 136
bis(chloroisopropyl) ether	ND		1150	1130		ug/Kg	⊗	98	42 - 134
Butyl benzyl phthalate	60 J		1150	1510		ug/Kg	⊗	126	59 - 141
Carbazole	ND F1 *		1150	1670	F1	ug/Kg	⊗	145	70 - 137
Chrysene	ND		1150	1110		ug/Kg	⊗	96	63 - 120
Dibenz(a,h)anthracene	ND		1150	1020		ug/Kg	⊗	89	59 - 132
Dibenzofuran	ND		1150	1070		ug/Kg	⊗	93	68 - 120
Diethyl phthalate	ND		1150	1210 J		ug/Kg	⊗	106	53 - 126
Dimethyl phthalate	ND		1150	1170		ug/Kg	⊗	101	66 - 120
Di-n-butyl phthalate	ND		1150	1180		ug/Kg	⊗	102	59 - 129
Di-n-octyl phthalate	ND		1150	1460		ug/Kg	⊗	127	53 - 144
Fluoranthene	7.5 J		1150	1130		ug/Kg	⊗	97	69 - 120
Fluorene	ND		1150	1030		ug/Kg	⊗	89	68 - 121
Indeno[1,2,3-cd]pyrene	ND		1150	1110		ug/Kg	⊗	96	52 - 139
Isophorone	ND		1150	1030		ug/Kg	⊗	90	61 - 128
Naphthalene	ND		1150	862		ug/Kg	⊗	75	68 - 120
N-Nitrosodiphenylamine	ND		1150	1040		ug/Kg	⊗	90	67 - 120
Phenanthrene	ND		1150	1010		ug/Kg	⊗	87	68 - 120
Phenol	ND		1150	927		ug/Kg	⊗	81	59 - 120
Pyrene	ND		1150	1150		ug/Kg	⊗	100	73 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	96		52 - 125
2-Fluorobiphenyl	91		57 - 120
2-Fluorophenol (Surr)	91		60 - 125

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Surrogate	MS	MS	%Recovery	Qualifier	Limits
Nitrobenzene-d5 (Surr)	97				62 - 120
Phenol-d5 (Surr)	90				59 - 120
Terphenyl-d14 (Surr)	92				58 - 120

**Lab Sample ID: 580-88695-1 MSD**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
1,2,4-Trichlorobenzene	ND		1040	1040		ug/Kg	⊗	100	66 - 120	9	18	
1,2-Dichlorobenzene	ND		1040	967		ug/Kg	⊗	93	62 - 120	12	30	
1,3-Dichlorobenzene	ND		1040	936		ug/Kg	⊗	90	64 - 120	16	29	
1,4-Dichlorobenzene	ND		1040	930		ug/Kg	⊗	90	57 - 120	14	35	
1-Methylnaphthalene	ND		1040	1030		ug/Kg	⊗	99	69 - 120	3	24	
2,4,5-Trichlorophenol	ND		1040	1160		ug/Kg	⊗	112	64 - 120	10	23	
2,4-Dichlorophenol	ND		1040	1130		ug/Kg	⊗	109	63 - 121	2	19	
2,4-Dimethylphenol	ND		1040	1000		ug/Kg	⊗	96	37 - 129	7	40	
2-Chloronaphthalene	ND		1040	946		ug/Kg	⊗	91	65 - 120	4	21	
2-Chlorophenol	ND		1040	1050		ug/Kg	⊗	101	66 - 120	4	32	
2-Methylnaphthalene	ND		1040	988		ug/Kg	⊗	95	65 - 120	1	21	
2-Methylphenol	ND		1040	964		ug/Kg	⊗	93	61 - 120	7	40	
2-Nitroaniline	ND		1040	998		ug/Kg	⊗	96	63 - 126	13	16	
2-Nitrophenol	ND		1040	1270		ug/Kg	⊗	123	58 - 130	2	30	
3 & 4 Methylphenol	ND		1040	920		ug/Kg	⊗	88	60 - 120	0	36	
3-Nitroaniline	ND		1040	617		ug/Kg	⊗	59	34 - 120	15	25	
4,6-Dinitro-2-methylphenol	ND		2080	1630		ug/Kg	⊗	78	13 - 150	2	40	
4-Bromophenyl phenyl ether	ND		1040	855		ug/Kg	⊗	82	65 - 120	6	32	
4-Chloro-3-methylphenol	ND		1040	1000		ug/Kg	⊗	97	61 - 120	6	25	
4-Chlorophenyl phenyl ether	ND		1040	980		ug/Kg	⊗	94	64 - 120	10	21	
4-Nitroaniline	ND	F2	1040	850	F2	ug/Kg	⊗	82	49 - 128	26	23	
4-Nitrophenol	ND		2080	2080		ug/Kg	⊗	100	27 - 150	22	31	
Acenaphthene	ND		1040	900		ug/Kg	⊗	87	64 - 120	9	19	
Acenaphthylene	ND		1040	1020		ug/Kg	⊗	98	63 - 120	4	18	
Anthracene	ND		1040	966		ug/Kg	⊗	93	67 - 120	4	28	
Benzo[a]anthracene	ND		1040	1160		ug/Kg	⊗	111	66 - 120	6	21	
Benzo[a]pyrene	ND		1040	980		ug/Kg	⊗	94	72 - 121	2	27	
Benzo[b]fluoranthene	ND		1040	949		ug/Kg	⊗	91	71 - 130	9	25	
Benzo[g,h,i]perylene	ND		1040	987		ug/Kg	⊗	95	59 - 134	5	26	
Benzo[k]fluoranthene	ND		1040	875		ug/Kg	⊗	84	68 - 123	2	18	
Benzoic acid	ND	F1	2080	3050	F1	ug/Kg	⊗	147	10 - 120	0	40	
Benzyl alcohol	ND		1040	470	J	ug/Kg	⊗	45	28 - 134	37	40	
Bis(2-chloroethoxy)methane	ND		1040	972		ug/Kg	⊗	93	60 - 120	0	33	
Bis(2-ethylhexyl) phthalate	ND		1040	1410		ug/Kg	⊗	136	59 - 136	9	25	
bis(chloroisopropyl) ether	ND		1040	1220		ug/Kg	⊗	118	42 - 134	8	33	
Butyl benzyl phthalate	60	J	1040	1400		ug/Kg	⊗	129	59 - 141	7	27	
Carbazole	ND	F1 *	1040	1570	F1	ug/Kg	⊗	151	70 - 137	7	24	
Chrysene	ND		1040	1030		ug/Kg	⊗	99	63 - 120	7	27	
Dibenz(a,h)anthracene	ND		1040	946		ug/Kg	⊗	91	59 - 132	8	29	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 580-88695-1 MSD**

**Matrix: Solid**

**Analysis Batch: 310468**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
Dibenzofuran	ND		1040	1020	J	ug/Kg	⊗	98	68 - 120	5	18
Diethyl phthalate	ND		1040	1100	J	ug/Kg	⊗	106	53 - 126	10	22
Dimethyl phthalate	ND		1040	1050		ug/Kg	⊗	101	66 - 120	11	21
Di-n-butyl phthalate	ND		1040	1070		ug/Kg	⊗	103	59 - 129	10	26
Di-n-octyl phthalate	ND		1040	1390		ug/Kg	⊗	134	53 - 144	5	18
Fluoranthene	7.5	J	1040	1010		ug/Kg	⊗	96	69 - 120	11	21
Fluorene	ND		1040	925		ug/Kg	⊗	89	68 - 121	11	17
Indeno[1,2,3-cd]pyrene	ND		1040	1010		ug/Kg	⊗	97	52 - 139	9	30
Isophorone	ND		1040	1090		ug/Kg	⊗	105	61 - 128	5	31
Naphthalene	ND		1040	906		ug/Kg	⊗	87	68 - 120	5	15
N-Nitrosodiphenylamine	ND		1040	967		ug/Kg	⊗	93	67 - 120	7	30
Phenanthrene	ND		1040	917		ug/Kg	⊗	88	68 - 120	9	27
Phenol	ND		1040	907		ug/Kg	⊗	87	59 - 120	2	30
Pyrene	ND		1040	1070		ug/Kg	⊗	103	73 - 120	7	24

**MSD MSD**

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	95		52 - 125
2-Fluorobiphenyl	94		57 - 120
2-Fluorophenol (Surr)	103		60 - 125
Nitrobenzene-d5 (Surr)	113		62 - 120
Phenol-d5 (Surr)	102		59 - 120
Terphenyl-d14 (Surr)	93		58 - 120

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 580-309543/1-A**

**Matrix: Water**

**Analysis Batch: 310259**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 309543**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.025	ug/L	08/28/19 09:48	09/05/19 10:51		1
2-Methylnaphthalene	ND		0.030	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
1-Methylnaphthalene	ND		0.030	0.0070	ug/L	08/28/19 09:48	09/05/19 10:51		1
Acenaphthylene	ND		0.030	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Acenaphthene	ND		0.030	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Fluorene	ND		0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Phenanthrene	ND		0.060	0.017	ug/L	08/28/19 09:48	09/05/19 10:51		1
Anthracene	ND		0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Fluoranthene	ND		0.060	0.015	ug/L	08/28/19 09:48	09/05/19 10:51		1
Pyrene	ND		0.030	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Benzo[a]anthracene	0.00952	J	0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Chrysene	ND		0.060	0.015	ug/L	08/28/19 09:48	09/05/19 10:51		1
Benzo[b]fluoranthene	ND		0.060	0.013	ug/L	08/28/19 09:48	09/05/19 10:51		1
Benzo[k]fluoranthene	ND		0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Benzo[a]pyrene	ND		0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Indeno[1,2,3-cd]pyrene	ND		0.030	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1
Dibenz(a,h)anthracene	ND		0.060	0.013	ug/L	08/28/19 09:48	09/05/19 10:51		1
Benzo[g,h,i]perylene	ND		0.060	0.0060	ug/L	08/28/19 09:48	09/05/19 10:51		1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 580-309543/1-A**

**Matrix: Water**

**Analysis Batch: 310259**

Surrogate	MB		Limits
	%Recovery	Qualifier	
Terphenyl-d14	87		54 - 120

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 309543**

**Lab Sample ID: LCS 580-309543/2-A**

**Matrix: Water**

**Analysis Batch: 310259**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits	%Rec.
	Added	Result	Qualifier					
Naphthalene	4.00	3.93		ug/L		98	37 - 120	
2-Methylnaphthalene	4.00	4.46		ug/L		111	32 - 120	
1-Methylnaphthalene	4.00	4.15		ug/L		104	30 - 120	
Acenaphthylene	4.00	1.98		ug/L		50	27 - 123	
Acenaphthene	4.00	3.52		ug/L		88	36 - 120	
Fluorene	4.00	4.08		ug/L		102	43 - 120	
Phenanthrene	4.00	4.16		ug/L		104	49 - 120	
Anthracene	4.00	2.90		ug/L		73	38 - 120	
Fluoranthene	4.00	4.12		ug/L		103	48 - 133	
Pyrene	4.00	3.61		ug/L		90	45 - 133	
Benzo[a]anthracene	4.00	4.06		ug/L		102	53 - 130	
Chrysene	4.00	4.07		ug/L		102	52 - 125	
Benzo[b]fluoranthene	4.00	4.56		ug/L		114	57 - 132	
Benzo[k]fluoranthene	4.00	3.69		ug/L		92	52 - 132	
Benzo[a]pyrene	4.00	0.592	*	ug/L		15	33 - 129	
Indeno[1,2,3-cd]pyrene	4.00	3.88		ug/L		97	58 - 133	
Dibenz(a,h)anthracene	4.00	4.20		ug/L		105	57 - 140	
Benzo[g,h,i]perylene	4.00	2.88		ug/L		72	52 - 134	

Surrogate	LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	97		54 - 120

**Lab Sample ID: LCSD 580-309543/3-A**

**Matrix: Water**

**Analysis Batch: 310259**

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
	Added	Result	Qualifier						
Naphthalene	4.00	3.12		ug/L		78	37 - 120	23	33
2-Methylnaphthalene	4.00	3.46		ug/L		86	32 - 120	25	35
1-Methylnaphthalene	4.00	3.28		ug/L		82	30 - 120	23	35
Acenaphthylene	4.00	2.98	*	ug/L		75	27 - 123	40	25
Acenaphthene	4.00	3.31		ug/L		83	36 - 120	6	31
Fluorene	4.00	3.67		ug/L		92	43 - 120	11	25
Phenanthrene	4.00	4.20		ug/L		105	49 - 120	1	21
Anthracene	4.00	2.95		ug/L		74	38 - 120	2	35
Fluoranthene	4.00	4.48		ug/L		112	48 - 133	8	21
Pyrene	4.00	4.29		ug/L		107	45 - 133	17	35
Benzo[a]anthracene	4.00	4.06		ug/L		101	53 - 130	0	35
Chrysene	4.00	4.05		ug/L		101	52 - 125	0	19
Benzo[b]fluoranthene	4.00	4.58		ug/L		115	57 - 132	0	25
Benzo[k]fluoranthene	4.00	3.85		ug/L		96	52 - 132	4	22

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309543**

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 580-309543/3-A**

**Matrix: Water**

**Analysis Batch: 310259**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 309543**

**%Rec.**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzo[a]pyrene	4.00	2.77	*	ug/L		69	33 - 129	130	35
Indeno[1,2,3-cd]pyrene	4.00	4.36		ug/L		109	58 - 133	12	31
Dibenz(a,h)anthracene	4.00	4.33		ug/L		108	57 - 140	3	31
Benzo[g,h,i]perylene	4.00	4.04		ug/L		101	52 - 134	33	35

Surrogate	LCSD	LCSD							
	%Recovery	Qualifier	Limits						
Terphenyl-d14	99		54 - 120						

**Lab Sample ID: MB 580-310035/1-A**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	4.1	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
2,4-Dinitrophenol	ND		150	30	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
2,4-Dinitrotoluene	ND		20	4.0	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
2,6-Dinitrotoluene	ND		10	3.1	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
3,3'-Dichlorobenzidine	ND		10	4.4	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
4-Chloroaniline	ND		150	48	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Bis(2-chloroethyl)ether	ND		10	3.1	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Hexachlorobenzene	ND		10	3.7	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Hexachlorobutadiene	ND		10	2.0	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Hexachlorocyclopentadiene	ND		10	3.5	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Hexachloroethane	ND		10	3.0	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Nitrobenzene	ND		10	3.1	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
N-Nitrosodimethylamine	ND		20	4.6	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
N-Nitrosodi-n-propylamine	ND		10	3.7	ug/Kg		09/03/19 09:39	09/04/19 11:59	1
Pentachlorophenol	ND		300	91	ug/Kg		09/03/19 09:39	09/04/19 11:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	48		28 - 143			1
2-Fluorobiphenyl	74		42 - 140			1
Nitrobenzene-d5	70		38 - 141			1
Terphenyl-d14	85		68 - 138			1

**Lab Sample ID: LCS 580-310035/2-A**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits		
2,4,6-Trichlorophenol	1000	762		ug/Kg		76	39 - 126		
2,4-Dinitrophenol	2000	1630		ug/Kg		81	20 - 141		
2,4-Dinitrotoluene	1000	967		ug/Kg		97	48 - 126		
2,6-Dinitrotoluene	1000	899		ug/Kg		90	46 - 124		
3,3'-Dichlorobenzidine	2000	1430		ug/Kg		71	22 - 121		
4-Chloroaniline	1000	223		ug/Kg		22	17 - 120		
Bis(2-chloroethyl)ether	1000	820		ug/Kg		82	18 - 120		
Hexachlorobenzene	1000	760		ug/Kg		76	39 - 125		

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 580-310035/2-A**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310035**

**%Rec.**

**Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Hexachlorobutadiene	1000	704		ug/Kg		70	32 - 123
Hexachlorocyclopentadiene	1000	819		ug/Kg		82	46 - 131
Hexachloroethane	1000	791		ug/Kg		79	28 - 120
Nitrobenzene	1000	869		ug/Kg		87	34 - 122
N-Nitrosodimethylamine	1000	838		ug/Kg		84	58 - 124
N-Nitrosodi-n-propylamine	1000	808		ug/Kg		81	36 - 120
Pentachlorophenol	2000	1420		ug/Kg		71	36 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	78		28 - 143
2-Fluorobiphenyl	88		42 - 140
Nitrobenzene-d5	86		38 - 141
Terphenyl-d14	91		68 - 138

**Lab Sample ID: 580-88695-11 MS**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	Limits
2,4,6-Trichlorophenol	ND		1160	1030		ug/Kg	⊗	89	39 - 126	
2,4-Dinitrophenol	ND	F2	2320	1690		ug/Kg	⊗	73	20 - 141	
2,4-Dinitrotoluene	ND		1160	1200		ug/Kg	⊗	104	48 - 126	
2,6-Dinitrotoluene	ND		1160	1100		ug/Kg	⊗	95	46 - 124	
3,3'-Dichlorobenzidine	ND	F1	2320	476	F1	ug/Kg	⊗	21	22 - 121	
4-Chloroaniline	ND	F1	1160	187	F1	ug/Kg	⊗	16	17 - 120	
Bis(2-chloroethyl)ether	ND		1160	1080		ug/Kg	⊗	94	18 - 120	
Hexachlorobenzene	ND		1160	920		ug/Kg	⊗	79	39 - 125	
Hexachlorobutadiene	ND		1160	903		ug/Kg	⊗	78	32 - 123	
Hexachlorocyclopentadiene	ND		1160	947		ug/Kg	⊗	82	46 - 131	
Hexachloroethane	ND		1160	1050		ug/Kg	⊗	91	28 - 120	
Nitrobenzene	ND		1160	1120		ug/Kg	⊗	97	34 - 122	
N-Nitrosodimethylamine	ND		1160	1090		ug/Kg	⊗	94	58 - 124	
N-Nitrosodi-n-propylamine	ND		1160	1120		ug/Kg	⊗	97	36 - 120	
Pentachlorophenol	ND		2320	1950		ug/Kg	⊗	84	36 - 129	

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	80		28 - 143
2-Fluorobiphenyl	98		42 - 140
Nitrobenzene-d5	92		38 - 141
Terphenyl-d14	90		68 - 138

**Lab Sample ID: 580-88695-11 MSD**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	Limit
2,4,6-Trichlorophenol	ND		1120	1030		ug/Kg	⊗	92	39 - 126	0	30
2,4-Dinitrophenol	ND	F2	2230	1200	F2	ug/Kg	⊗	54	20 - 141	34	30

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 580-88695-11 MSD**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: TS-01-SO**

**Prep Type: Total/NA**

**Prep Batch: 310035**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
2,4-Dinitrotoluene	ND		1120	1190	E	ug/Kg	⊗	107	48 - 126	1	30
2,6-Dinitrotoluene	ND		1120	1140		ug/Kg	⊗	102	46 - 124	4	30
3,3'-Dichlorobenzidine	ND	F1	2230	641		ug/Kg	⊗	29	22 - 121	30	30
4-Chloroaniline	ND	F1	1120	198		ug/Kg	⊗	18	17 - 120	5	30
Bis(2-chloroethyl)ether	ND		1120	1000		ug/Kg	⊗	90	18 - 120	8	30
Hexachlorobenzene	ND		1120	908		ug/Kg	⊗	81	39 - 125	1	30
Hexachlorobutadiene	ND		1120	890		ug/Kg	⊗	80	32 - 123	1	30
Hexachlorocyclopentadiene	ND		1120	863		ug/Kg	⊗	77	46 - 131	9	30
Hexachloroethane	ND		1120	968		ug/Kg	⊗	87	28 - 120	8	30
Nitrobenzene	ND		1120	1060		ug/Kg	⊗	95	34 - 122	6	30
N-Nitrosodimethylamine	ND		1120	1020		ug/Kg	⊗	92	58 - 124	6	30
N-Nitrosodi-n-propylamine	ND		1120	1070		ug/Kg	⊗	96	36 - 120	5	30
Pentachlorophenol	ND		2230	1950		ug/Kg	⊗	87	36 - 129	0	30

**MSD MSD**

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol	83		28 - 143
2-Fluorobiphenyl	102		42 - 140
Nitrobenzene-d5	97		38 - 141
Terphenyl-d14	96		68 - 138

**Lab Sample ID: MB 580-310147/1-A**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	4.1	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
2,4-Dinitrophenol	ND		150	30	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
2,4-Dinitrotoluene	ND		20	4.0	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
2,6-Dinitrotoluene	ND		10	3.1	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
3,3'-Dichlorobenzidine	ND		10	4.4	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
4-Chloroaniline	ND		150	48	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Bis(2-chloroethyl)ether	ND		10	3.1	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Hexachlorobenzene	ND		10	3.7	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Hexachlorobutadiene	ND		10	2.0	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Hexachlorocyclopentadiene	ND		10	3.5	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Hexachloroethane	ND		10	3.0	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Nitrobenzene	ND		10	3.1	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
N-Nitrosodimethylamine	ND		20	4.6	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
N-Nitrosodi-n-propylamine	ND		10	3.7	ug/Kg		09/04/19 09:12	09/04/19 16:13	1
Pentachlorophenol	ND		300	91	ug/Kg		09/04/19 09:12	09/04/19 16:13	1

**MB MB**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	67		28 - 143	09/04/19 09:12	09/04/19 16:13	1
2-Fluorobiphenyl	87		42 - 140	09/04/19 09:12	09/04/19 16:13	1
Nitrobenzene-d5	78		38 - 141	09/04/19 09:12	09/04/19 16:13	1
Terphenyl-d14	108		68 - 138	09/04/19 09:12	09/04/19 16:13	1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 580-310147/2-A**

**Matrix: Solid**

**Analysis Batch: 310297**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,4,6-Trichlorophenol	1000	852		ug/Kg		85	39 - 126
2,4-Dinitrophenol	2000	1600		ug/Kg		80	20 - 141
2,4-Dinitrotoluene	1000	1080		ug/Kg		108	48 - 126
2,6-Dinitrotoluene	1000	952		ug/Kg		95	46 - 124
3,3'-Dichlorobenzidine	2000	1610		ug/Kg		81	22 - 121
4-Chloroaniline	1000	237		ug/Kg		24	17 - 120
Bis(2-chloroethyl)ether	1000	958		ug/Kg		96	18 - 120
Hexachlorobenzene	1000	805		ug/Kg		81	39 - 125
Hexachlorobutadiene	1000	802		ug/Kg		80	32 - 123
Hexachlorocyclopentadiene	1000	921		ug/Kg		92	46 - 131
Hexachloroethane	1000	920		ug/Kg		92	28 - 120
Nitrobenzene	1000	988		ug/Kg		99	34 - 122
N-Nitrosodimethylamine	1000	1040		ug/Kg		104	58 - 124
N-Nitrosodi-n-propylamine	1000	1030		ug/Kg		103	36 - 120
Pentachlorophenol	2000	1360		ug/Kg		68	36 - 129

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	72		28 - 143
2-Fluorobiphenyl	99		42 - 140
Nitrobenzene-d5	89		38 - 141
Terphenyl-d14	88		68 - 138

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
2,4,6-Trichlorophenol	ND		1150	1000		ug/Kg	⊗	87	39 - 126
2,4-Dinitrophenol	ND	F1	2300	246	F1	ug/Kg	⊗	11	20 - 141
2,4-Dinitrotoluene	ND		1150	1140		ug/Kg	⊗	99	48 - 126
2,6-Dinitrotoluene	ND		1150	1050		ug/Kg	⊗	91	46 - 124
3,3'-Dichlorobenzidine	ND	F2 F1	2300	24.2	F1	ug/Kg	⊗	1	22 - 121
4-Chloroaniline	ND	F2	1150	242		ug/Kg	⊗	21	17 - 120
Bis(2-chloroethyl)ether	ND		1150	902		ug/Kg	⊗	78	18 - 120
Hexachlorobenzene	ND		1150	877		ug/Kg	⊗	76	39 - 125
Hexachlorobutadiene	ND		1150	760		ug/Kg	⊗	66	32 - 123
Hexachlorocyclopentadiene	ND	F1	1150	137	F1	ug/Kg	⊗	12	46 - 131
Hexachloroethane	ND		1150	709		ug/Kg	⊗	62	28 - 120
Nitrobenzene	ND		1150	977		ug/Kg	⊗	85	34 - 122
N-Nitrosodimethylamine	ND		1150	837		ug/Kg	⊗	73	58 - 124
N-Nitrosodi-n-propylamine	ND		1150	979		ug/Kg	⊗	85	36 - 120
Pentachlorophenol	ND		2300	1940		ug/Kg	⊗	84	36 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	78		28 - 143
2-Fluorobiphenyl	88		42 - 140
Nitrobenzene-d5	83		38 - 141
Terphenyl-d14	91		68 - 138

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: 580-88695-1 MSD**

**Matrix: Solid**

**Analysis Batch: 310163**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	ND		1040	941		ug/Kg	⊗	91	39 - 126	6	30
2,4-Dinitrophenol	ND	F1	2080	273	F1	ug/Kg	⊗	13	20 - 141	10	30
2,4-Dinitrotoluene	ND		1040	1010		ug/Kg	⊗	97	48 - 126	12	30
2,6-Dinitrotoluene	ND		1040	1020		ug/Kg	⊗	98	46 - 124	3	30
3,3'-Dichlorobenzidine	ND	F2 F1	2080	41.3	F2 F1	ug/Kg	⊗	2	22 - 121	52	30
4-Chloroaniline	ND	F2	1040	173	F2	ug/Kg	⊗	17	17 - 120	33	30
Bis(2-chloroethyl)ether	ND		1040	948		ug/Kg	⊗	91	18 - 120	5	30
Hexachlorobenzene	ND		1040	821		ug/Kg	⊗	79	39 - 125	7	30
Hexachlorobutadiene	ND		1040	859		ug/Kg	⊗	83	32 - 123	12	30
Hexachlorocyclopentadiene	ND	F1	1040	147	F1	ug/Kg	⊗	14	46 - 131	7	30
Hexachloroethane	ND		1040	827		ug/Kg	⊗	80	28 - 120	15	30
Nitrobenzene	ND		1040	1040		ug/Kg	⊗	100	34 - 122	6	30
N-Nitrosodimethylamine	ND		1040	1000		ug/Kg	⊗	96	58 - 124	18	30
N-Nitrosodi-n-propylamine	ND		1040	1020		ug/Kg	⊗	98	36 - 120	4	30
Pentachlorophenol	ND		2080	1840		ug/Kg	⊗	88	36 - 129	5	30

Surrogate	MSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	84		28 - 143
2-Fluorobiphenyl	94		42 - 140
Nitrobenzene-d5	99		38 - 141
Terphenyl-d14	93		68 - 138

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 580-310074/3-A**

**Matrix: Solid**

**Analysis Batch: 310465**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310074**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.30	0.066	ug/Kg	⊗	09/03/19 12:34	09/06/19 16:14	1
Ethylene Dibromide	ND		0.050	0.012	ug/Kg	⊗	09/03/19 12:34	09/06/19 16:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane	93		60 - 140	09/03/19 12:34	09/06/19 16:14	1

**Lab Sample ID: LCS 580-310074/4-A**

**Matrix: Solid**

**Analysis Batch: 310465**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310074**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,3-Trichloropropane	0.400	0.444		ug/Kg	⊗	111	60 - 140
Ethylene Dibromide	0.400	0.452		ug/Kg	⊗	113	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane	85		60 - 140

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 580-310074/5-A**

**Matrix: Solid**

**Analysis Batch: 310465**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310074**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,3-Trichloropropane	0.400	0.453		ug/Kg		113	60 - 140	2	20
Ethylene Dibromide	0.400	0.461		ug/Kg		115	60 - 140	2	20
<b>Surrogate</b>									
LCSD %Recovery Qualifier Limits									
1,2-Dibromopropane	89			60 - 140					

**Lab Sample ID: MB 580-310972/3-A**

**Matrix: Solid**

**Analysis Batch: 311024**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310972**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.30	0.066	ug/Kg				1
Ethylene Dibromide	ND		0.050	0.012	ug/Kg		09/12/19 10:55	09/12/19 16:45	1
<b>Surrogate</b>									
MB %Recovery Qualifier Limits									
1,2-Dibromopropane	92		60 - 140				09/12/19 10:55	09/12/19 16:45	1

**Lab Sample ID: LCS 580-310972/4-A**

**Matrix: Solid**

**Analysis Batch: 311024**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310972**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	Dil Fac
1,2,3-Trichloropropane	0.400	0.446		ug/Kg		111	60 - 140	
Ethylene Dibromide	0.400	0.477		ug/Kg		119	60 - 140	
<b>Surrogate</b>								
LCS %Recovery Qualifier Limits								
1,2-Dibromopropane	94		60 - 140					

**Lab Sample ID: LCSD 580-310972/5-A**

**Matrix: Solid**

**Analysis Batch: 311024**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310972**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
1,2,3-Trichloropropane	0.400	0.376		ug/Kg		94	60 - 140	17
Ethylene Dibromide	0.400	0.443		ug/Kg		111	60 - 140	7
<b>Surrogate</b>								
LCSD %Recovery Qualifier Limits								
1,2-Dibromopropane	106		60 - 140					

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

**Lab Sample ID: MB 590-23989/1-A**

**Matrix: Solid**

**Analysis Batch: 24016**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 23989**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1221	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

**Lab Sample ID:** MB 590-23989/1-A

**Matrix:** Solid

**Analysis Batch:** 24016

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 23989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1242	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1248	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1254	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1260	2.41	J	10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1268	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1
PCB-1262	ND		10	2.2	ug/Kg		09/06/19 08:42	09/09/19 14:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		31 - 142	09/06/19 08:42	09/09/19 14:19	1
DCB Decachlorobiphenyl (Surr)	104		20 - 150	09/06/19 08:42	09/09/19 14:19	1

**Lab Sample ID:** LCS 590-23989/2-A

**Matrix:** Solid

**Analysis Batch:** 24016

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Prep Batch:** 23989

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
PCB-1016	66.7	64.2		ug/Kg		96	63 - 127
PCB-1260	66.7	71.6		ug/Kg		107	63 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	37		31 - 142
DCB Decachlorobiphenyl (Surr)	115		20 - 150

**Lab Sample ID:** LCSD 590-23989/3-A

**Matrix:** Solid

**Analysis Batch:** 24016

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

**Prep Batch:** 23989

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD
PCB-1016	66.7	65.4		ug/Kg		98	63 - 127	2
PCB-1260	66.7	76.1		ug/Kg		114	63 - 128	6

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	19	X	31 - 142
DCB Decachlorobiphenyl (Surr)	132		20 - 150

## Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

**Lab Sample ID:** MB 590-23891/1-A

**Matrix:** Solid

**Analysis Batch:** 23886

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 23891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO) (C10-C25)	ND		10	3.4	mg/Kg		09/03/19 11:22	09/03/19 19:27	1
Residual Range Organics (RRO) (C25-C36)	ND		20	5.0	mg/Kg		09/03/19 11:22	09/03/19 19:27	1

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)** (Continued)

**Lab Sample ID: MB 590-23891/1-A**

**Matrix: Solid**

**Analysis Batch: 23886**

Surrogate	MB	MB	Limits
	%Recovery	Qualifier	
<i>o</i> -Terphenyl	90		50 - 150
<i>n</i> -Triacontane-d62	73		50 - 150

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 23891**

**Lab Sample ID: LCS 590-23891/2-A**

**Matrix: Solid**

**Analysis Batch: 23886**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				
Diesel Range Organics (DRO) (C10-C25)	66.7	66.8		mg/Kg		100	75 - 125
Residual Range Organics (RRO) (C25-C36)	66.7	65.8		mg/Kg		99	60 - 120
Surrogate	LCS	LCS	Limits				
<i>o</i> -Terphenyl	98		50 - 150				
<i>n</i> -Triacontane-d62	101		50 - 150				

**Lab Sample ID: LCSD 590-23891/3-A**

**Matrix: Solid**

**Analysis Batch: 23886**

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD
	Added	Result	Qualifier					
Diesel Range Organics (DRO) (C10-C25)	66.7	61.1		mg/Kg		92	75 - 125	9
Residual Range Organics (RRO) (C25-C36)	66.7	60.5		mg/Kg		91	60 - 120	8
Surrogate	LCSD	LCSD	Limits					
<i>o</i> -Terphenyl	91		50 - 150					
<i>n</i> -Triacontane-d62	91		50 - 150					

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 23886**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Diesel Range Organics (DRO) (C10-C25)	14		83.3	94.3		mg/Kg	⊗	96	75 - 125
Residual Range Organics (RRO) (C25-C36)	110	F1	83.3	239	F1	mg/Kg	⊗	160	60 - 120
Surrogate	MS	MS	Limits						
<i>o</i> -Terphenyl	96		50 - 150						
<i>n</i> -Triacontane-d62	107		50 - 150						

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 23891**

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)** (Continued)

**Lab Sample ID: 580-88695-1 MSD**

**Matrix: Solid**

**Analysis Batch: 23886**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec.	RPD	
	Result	Qualifier	Added	Result	Qualifier					
Diesel Range Organics (DRO) (C10-C25)	14		81.2	94.0		mg/Kg	⊗	98	75 - 125	
Residual Range Organics (RRO) (C25-C36)	110	F1	81.2	241	F1	mg/Kg	⊗	167	60 - 120	
<b>Surrogate</b>										
<i>o</i> -Terphenyl	89			<b>MSD</b>		50 - 150				
<i>n</i> -Triacantane-d62	100			<b>MSD</b>		50 - 150				

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 23891**

## **Method: 6020A - Metals (ICP/MS)**

**Lab Sample ID: MB 580-310416/22-A**

**Matrix: Solid**

**Analysis Batch: 310789**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	0.0804	J	0.25	0.050	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Barium	ND		0.50	0.11	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Cadmium	ND		0.20	0.039	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Chromium	0.0546	J	0.25	0.032	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Lead	ND		0.25	0.024	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Selenium	0.312	J	0.55	0.14	mg/Kg		09/06/19 10:17	09/10/19 17:28	5
Silver	ND		0.10	0.010	mg/Kg		09/06/19 10:17	09/10/19 17:28	5

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310416**

**Lab Sample ID: LCS 580-310416/23-A**

**Matrix: Solid**

**Analysis Batch: 310789**

Analyte	Spike	LCS	LCS	Unit	D	%Rec.	Limits	Dil Fac
	Added	Result	Qualifier					
Arsenic	50.0	48.0		mg/Kg		96	80 - 120	
Barium	50.0	44.7		mg/Kg		89	80 - 120	
Cadmium	50.0	45.2		mg/Kg		90	80 - 120	
Chromium	50.0	47.0		mg/Kg		94	80 - 120	
Lead	50.0	46.2		mg/Kg		92	80 - 120	
Selenium	50.0	47.1		mg/Kg		94	80 - 120	
Silver	50.0	46.8		mg/Kg		94	80 - 120	

**Lab Sample ID: LCSD 580-310416/24-A**

**Matrix: Solid**

**Analysis Batch: 310789**

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec.	RPD	Limit
	Added	Result	Qualifier					
Arsenic	50.0	48.0		mg/Kg		96	80 - 120	0
Barium	50.0	44.5		mg/Kg		89	80 - 120	1
Cadmium	50.0	44.9		mg/Kg		90	80 - 120	1
Chromium	50.0	46.3		mg/Kg		93	80 - 120	1
Lead	50.0	45.5		mg/Kg		91	80 - 120	1
Selenium	50.0	47.2		mg/Kg		94	80 - 120	0

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310416**

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 580-310416/24-A**

**Matrix: Solid**

**Analysis Batch: 310789**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310416**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	RPD	Limit
Silver	50.0	47.4		mg/Kg	95	80 - 120	1	20

**Lab Sample ID: 580-88695-1 MS**

**Matrix: Solid**

**Analysis Batch: 310789**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310416**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	12	B	46.7	64.0		mg/Kg	⊗	110	80 - 120		
Barium	130	F1	46.7	212	F1	mg/Kg	⊗	182	80 - 120		
Cadmium	0.36		46.7	48.5		mg/Kg	⊗	103	80 - 120		
Chromium	22	B	46.7	73.3		mg/Kg	⊗	110	80 - 120		
Lead	7.5		46.7	56.3		mg/Kg	⊗	105	80 - 120		
Selenium	0.76	B	46.7	49.6		mg/Kg	⊗	105	80 - 120		
Silver	0.11		46.7	49.1		mg/Kg	⊗	105	80 - 120		

**Lab Sample ID: 580-88695-1 MSD**

**Matrix: Solid**

**Analysis Batch: 310789**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310416**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	12	B	46.3	64.7		mg/Kg	⊗	113	80 - 120	1	20
Barium	130	F1	46.3	205	F1	mg/Kg	⊗	168	80 - 120	3	20
Cadmium	0.36		46.3	45.9		mg/Kg	⊗	98	80 - 120	5	20
Chromium	22	B	46.3	70.4		mg/Kg	⊗	105	80 - 120	4	20
Lead	7.5		46.3	54.1		mg/Kg	⊗	101	80 - 120	4	20
Selenium	0.76	B	46.3	47.2		mg/Kg	⊗	100	80 - 120	5	20
Silver	0.11		46.3	44.8		mg/Kg	⊗	96	80 - 120	9	20

**Lab Sample ID: 580-88695-1 DU**

**Matrix: Solid**

**Analysis Batch: 310789**

**Client Sample ID: TP-04-SO**

**Prep Type: Total/NA**

**Prep Batch: 310416**

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	RPD	Limit
Arsenic	12	B		15.4	F3	mg/Kg	⊗	21	20
Barium	130	F1		140		mg/Kg	⊗	10	20
Cadmium	0.36			0.326		mg/Kg	⊗	9	20
Chromium	22	B		22.7		mg/Kg	⊗	3	20
Lead	7.5			7.55		mg/Kg	⊗	0.8	20
Selenium	0.76	B		0.817		mg/Kg	⊗	7	20
Silver	0.11			0.103		mg/Kg	⊗	10	20

**Lab Sample ID: MB 580-310440/22-A**

**Matrix: Solid**

**Analysis Batch: 310862**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310440**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		09/06/19 13:00	09/11/19 06:48	5
Barium	ND		0.50	0.11	mg/Kg		09/06/19 13:00	09/11/19 06:48	5
Cadmium	ND		0.20	0.039	mg/Kg		09/06/19 13:00	09/11/19 06:48	5
Chromium	ND		0.25	0.032	mg/Kg		09/06/19 13:00	09/11/19 06:48	5

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 580-310440/22-A**

**Matrix: Solid**

**Analysis Batch: 310862**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310440**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0565	J	0.25	0.024	mg/Kg		09/06/19 13:00	09/11/19 06:48	5
Selenium	ND		0.55	0.14	mg/Kg		09/06/19 13:00	09/11/19 06:48	5
Silver	ND		0.10	0.010	mg/Kg		09/06/19 13:00	09/11/19 06:48	5

**Lab Sample ID: LCS 580-310440/23-A**

**Matrix: Solid**

**Analysis Batch: 310862**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310440**

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Arsenic	50.0	47.8		mg/Kg		96	80 - 120
Barium	50.0	44.4		mg/Kg		89	80 - 120
Cadmium	50.0	45.6		mg/Kg		91	80 - 120
Chromium	50.0	47.6		mg/Kg		95	80 - 120
Lead	50.0	49.5		mg/Kg		99	80 - 120
Selenium	50.0	47.8		mg/Kg		96	80 - 120
Silver	50.0	46.9		mg/Kg		94	80 - 120

**Lab Sample ID: LCSD 580-310440/24-A**

**Matrix: Solid**

**Analysis Batch: 310862**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310440**

Analyte	Spike Added	LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Arsenic	50.0	45.1		mg/Kg		90	80 - 120	6	20
Barium	50.0	42.5		mg/Kg		85	80 - 120	4	20
Cadmium	50.0	43.3		mg/Kg		87	80 - 120	5	20
Chromium	50.0	45.4		mg/Kg		91	80 - 120	5	20
Lead	50.0	47.1		mg/Kg		94	80 - 120	5	20
Selenium	50.0	45.8		mg/Kg		92	80 - 120	4	20
Silver	50.0	44.6		mg/Kg		89	80 - 120	5	20

**Lab Sample ID: MB 580-310295/24-A**

**Matrix: Water**

**Analysis Batch: 310554**

**Client Sample ID: Method Blank**

**Prep Type: Total Recoverable**

**Prep Batch: 310295**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000644	J	0.0010	0.00020	mg/L		09/05/19 11:27	09/06/19 19:16	1
Barium	ND		0.0012	0.00021	mg/L		09/05/19 11:27	09/06/19 19:16	1
Cadmium	ND		0.00040	0.00010	mg/L		09/05/19 11:27	09/06/19 19:16	1
Chromium	ND		0.00040	0.00017	mg/L		09/05/19 11:27	09/06/19 19:16	1
Lead	ND		0.00080	0.00020	mg/L		09/05/19 11:27	09/06/19 19:16	1
Selenium	ND		0.0080	0.0021	mg/L		09/05/19 11:27	09/06/19 19:16	1
Silver	ND		0.00040	0.000055	mg/L		09/05/19 11:27	09/06/19 19:16	1

**Lab Sample ID: LCS 580-310295/25-A**

**Matrix: Water**

**Analysis Batch: 310554**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total Recoverable**

**Prep Batch: 310295**

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Arsenic	1.00	1.01		mg/L		101	80 - 120
Barium	1.00	0.934		mg/L		93	80 - 120

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 580-310295/25-A**

**Matrix: Water**

**Analysis Batch: 310554**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total Recoverable**

**Prep Batch: 310295**

**%Rec.**

**Limits**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	
Cadmium	1.00	0.952		mg/L	95	80 - 120	
Chromium	1.00	0.961		mg/L	96	80 - 120	
Lead	1.00	0.958		mg/L	96	80 - 120	
Selenium	1.00	0.991		mg/L	99	80 - 120	
Silver	1.00	0.946		mg/L	95	80 - 120	

**Lab Sample ID: LCSD 580-310295/26-A**

**Matrix: Water**

**Analysis Batch: 310554**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total Recoverable**

**Prep Batch: 310295**

**%Rec.**

**RPD**

**Limit**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	1.00	0.994		mg/L	99	80 - 120		1	20
Barium	1.00	0.907		mg/L	91	80 - 120		3	20
Cadmium	1.00	0.927		mg/L	93	80 - 120		3	20
Chromium	1.00	0.952		mg/L	95	80 - 120		1	20
Lead	1.00	0.934		mg/L	93	80 - 120		2	20
Selenium	1.00	0.977		mg/L	98	80 - 120		1	20
Silver	1.00	0.923		mg/L	92	80 - 120		2	20

**Lab Sample ID: MB 580-310178/1-C**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: Method Blank**

**Prep Type: Dissolved**

**Prep Batch: 310417**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000596	J	0.0010	0.00020	mg/L		09/06/19 10:36	09/09/19 23:29	1
Barium	ND		0.0012	0.00021	mg/L		09/06/19 10:36	09/09/19 23:29	1
Cadmium	ND		0.00040	0.00010	mg/L		09/06/19 10:36	09/09/19 23:29	1
Chromium	ND		0.00040	0.00017	mg/L		09/06/19 10:36	09/09/19 23:29	1
Lead	ND		0.00080	0.00020	mg/L		09/06/19 10:36	09/09/19 23:29	1
Selenium	ND		0.0080	0.0021	mg/L		09/06/19 10:36	09/09/19 23:29	1
Silver	ND		0.00040	0.000055	mg/L		09/06/19 10:36	09/09/19 23:29	1

**Lab Sample ID: LCS 580-310178/2-C**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: Lab Control Sample**

**Prep Type: Dissolved**

**Prep Batch: 310417**

**%Rec.**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1.00	0.963		mg/L	96	80 - 120	
Barium	1.00	0.981		mg/L	98	80 - 120	
Cadmium	1.00	0.949		mg/L	95	80 - 120	
Chromium	1.00	0.975		mg/L	98	80 - 120	
Lead	1.00	0.938		mg/L	94	80 - 120	
Selenium	1.00	0.960		mg/L	96	80 - 120	
Silver	1.00	1.00		mg/L	100	80 - 120	

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 6020A - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 580-310178/3-C**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Dissolved**

**Prep Batch: 310417**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
Arsenic	1.00	0.965		mg/L	96	80 - 120	0	20	
Barium	1.00	1.04		mg/L	104	80 - 120	6	20	
Cadmium	1.00	0.989		mg/L	99	80 - 120	4	20	
Chromium	1.00	0.984		mg/L	98	80 - 120	1	20	
Lead	1.00	0.950		mg/L	95	80 - 120	1	20	
Selenium	1.00	0.964		mg/L	96	80 - 120	0	20	
Silver	1.00	1.06		mg/L	106	80 - 120	6	20	

**Lab Sample ID: 580-88695-23 MS**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: TR-10-W**

**Prep Type: Dissolved**

**Prep Batch: 310417**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
Analyte	Result	Qualifier		Result	Qualifier	Unit	D	Limits	Limits
Arsenic	0.0075	B	1.00	1.04		mg/L	103	80 - 120	
Barium	0.022		1.00	1.08		mg/L	106	80 - 120	
Cadmium	0.00042		1.00	1.03		mg/L	102	80 - 120	
Chromium	0.0019		1.00	1.04		mg/L	104	80 - 120	
Lead	0.00042	J	1.00	1.04		mg/L	104	80 - 120	
Selenium	ND		1.00	1.02		mg/L	102	80 - 120	
Silver	0.00014	J	1.00	0.994		mg/L	99	80 - 120	

**Lab Sample ID: 580-88695-23 MSD**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: TR-10-W**

**Prep Type: Dissolved**

**Prep Batch: 310417**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.
Analyte	Result	Qualifier		Result	Qualifier	Unit	D	Limits	RPD
Arsenic	0.0075	B	1.00	1.03		mg/L	103	80 - 120	0
Barium	0.022		1.00	1.08		mg/L	106	80 - 120	0
Cadmium	0.00042		1.00	1.04		mg/L	104	80 - 120	1
Chromium	0.0019		1.00	1.05		mg/L	105	80 - 120	1
Lead	0.00042	J	1.00	1.06		mg/L	106	80 - 120	2
Selenium	ND		1.00	1.03		mg/L	103	80 - 120	2
Silver	0.00014	J	1.00	0.987		mg/L	99	80 - 120	1

**Lab Sample ID: 580-88695-23 DU**

**Matrix: Water**

**Analysis Batch: 310658**

**Client Sample ID: TR-10-W**

**Prep Type: Dissolved**

**Prep Batch: 310417**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D		RPD
Analyte	Result	Qualifier		Result	Qualifier	Unit	D		Limit
Arsenic	0.0075	B		0.00718		mg/L			5
Barium	0.022			0.0234		mg/L			5
Cadmium	0.00042			ND		mg/L			NC
Chromium	0.0019			0.00165		mg/L			16
Lead	0.00042	J		ND		mg/L			NC
Selenium	ND			ND		mg/L			NC
Silver	0.00014	J		ND		mg/L			NC

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID:** MB 580-309679/22-A

**Matrix:** Water

**Analysis Batch:** 309796

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 309679

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		08/29/19 09:58	08/29/19 14:32	1

**Lab Sample ID:** LCS 580-309679/23-A

**Matrix:** Water

**Analysis Batch:** 309796

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Prep Batch:** 309679

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Mercury	0.00200	0.00207		mg/L		103	80 - 120

**Lab Sample ID:** LCSD 580-309679/24-A

**Matrix:** Water

**Analysis Batch:** 309796

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

**Prep Batch:** 309679

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit
Mercury	0.00200	0.00205		mg/L		102	80 - 120	1 20

**Lab Sample ID:** MB 580-310025/9-A

**Matrix:** Water

**Analysis Batch:** 310145

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 310025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/03/19 08:27	09/03/19 18:18	1

**Lab Sample ID:** LCS 580-310025/10-A

**Matrix:** Water

**Analysis Batch:** 310145

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Prep Batch:** 310025

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Mercury	0.00200	0.00195		mg/L		98	80 - 120

**Lab Sample ID:** LCSD 580-310025/11-A

**Matrix:** Water

**Analysis Batch:** 310145

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

**Prep Batch:** 310025

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit
Mercury	0.00200	0.00176		mg/L		88	80 - 120	10 20

**Lab Sample ID:** 580-88695-25 MS

**Matrix:** Water

**Analysis Batch:** 310145

**Client Sample ID:** TR-12-W

**Prep Type:** Total/NA

**Prep Batch:** 310025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	Limits
Mercury	ND		0.00200	0.00193		mg/L		96	80 - 120

**Lab Sample ID:** 580-88695-25 MSD

**Matrix:** Water

**Analysis Batch:** 310145

**Client Sample ID:** TR-12-W

**Prep Type:** Total/NA

**Prep Batch:** 310025

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	Limit
Mercury	ND		0.00200	0.00180		mg/L		90	80 - 120	7 20

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: 580-88695-25 DU**

**Matrix: Water**

**Analysis Batch: 310145**

**Client Sample ID: TR-12-W**

**Prep Type: Total/NA**

**Prep Batch: 310025**

**RPD**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	ND		ND		mg/L		NC	20

**Lab Sample ID: MB 580-310178/1-D**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: Method Blank**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00030	0.00015	mg/L		09/07/19 11:57	09/09/19 16:42	1

**Lab Sample ID: LCS 580-310178/2-D**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: Lab Control Sample**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00200	0.00181		mg/L		91	80 - 120

**Lab Sample ID: LCSD 580-310178/3-D**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00200	0.00207		mg/L		104	80 - 120	13	20

**Lab Sample ID: 580-88695-24 MS**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: TR-11-W**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00200	0.00170		mg/L		85	80 - 120

**Lab Sample ID: 580-88695-24 MSD**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: TR-11-W**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00200	0.00179		mg/L		89	80 - 120

**Lab Sample ID: 580-88695-24 DU**

**Matrix: Water**

**Analysis Batch: 310653**

**Client Sample ID: TR-11-W**

**Prep Type: Dissolved**

**Prep Batch: 310505**

**RPD**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	ND		ND		mg/L		NC	20

# QC Sample Results

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: 7471A - Mercury (CVAA)

**Lab Sample ID:** MB 580-310557/22-A

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.030	0.0090	mg/Kg		09/09/19 10:05	09/09/19 14:53	1

**Lab Sample ID:** LCS 580-310557/23-A

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Mercury	0.167	0.155		mg/Kg		93	80 - 120

**Lab Sample ID:** LCSD 580-310557/24-A

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit	
Mercury	0.167	0.152		mg/Kg		91	80 - 120	2	20

**Lab Sample ID:** 580-88695-1 MS

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** TP-04-SO

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	Limits
Mercury	0.12		0.171	0.269		mg/Kg		90	80 - 120

**Lab Sample ID:** 580-88695-1 MSD

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** TP-04-SO

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	Limit	
Mercury	0.12		0.171	0.319		mg/Kg		119	80 - 120	17	20

**Lab Sample ID:** 580-88695-1 DU

**Matrix:** Solid

**Analysis Batch:** 310631

**Client Sample ID:** TP-04-SO

**Prep Type:** Total/NA

**Prep Batch:** 310557

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Mercury	0.12		0.0798	F3	mg/Kg		36	20

## Method: 2540G - SM 2540G

**Lab Sample ID:** 580-88695-16 DU

**Matrix:** Solid

**Analysis Batch:** 309887

**Client Sample ID:** TS-07-SO

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	81.5		82.4		%		1	20
Percent Moisture	18.5		17.6		%		5	20

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

## Method: SM 2340C - Hardness, Total (mg/l as CaCO<sub>3</sub>)

**Lab Sample ID: MB 580-310101/1**

**Matrix: Water**

**Analysis Batch: 310101**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	ND		2.0	2.0	mg/L			09/03/19 14:56	1

**Lab Sample ID: LCS 580-310101/2**

**Matrix: Water**

**Analysis Batch: 310101**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Hardness as calcium carbonate	1000	1040		mg/L		104	90 - 110

**Lab Sample ID: 580-88695-21 DU**

**Matrix: Water**

**Analysis Batch: 310101**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Hardness as calcium carbonate	47		47.0		mg/L		0	20

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Client Sample ID: TS-16-W**

**Prep Type: Total/NA**

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-04-SO**  
**Date Collected: 08/22/19 11:47**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-1**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TP-04-SO**  
**Date Collected: 08/22/19 11:47**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-1**  
**Matrix: Solid**  
**Percent Solids: 79.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 20:09	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 19:27	APR	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 20:05	APR	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		1	310468	09/06/19 19:29	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 16:59	T1W	TAL SEA
Total/NA	Prep	8011			310972	09/12/19 10:55	CJB	TAL SEA
Total/NA	Analysis	8011		1	311024	09/12/19 18:39	CJ	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/03/19 20:26	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 17:33	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:01	T1H	TAL SEA

**Client Sample ID: TP-01-SO**  
**Date Collected: 08/22/19 11:27**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-2**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TP-01-SO**  
**Date Collected: 08/22/19 11:27**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-2**  
**Matrix: Solid**  
**Percent Solids: 71.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 20:35	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 19:53	APR	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		25	310468	09/06/19 20:40	CJ	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Client Sample ID: TP-01-SO**

Date Collected: 08/22/19 11:27

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-2**

Matrix: Solid

Percent Solids: 71.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		20	310297	09/05/19 13:36	CJ	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23886	09/03/19 21:25	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:21	FCW	TAL SEA

## **Client Sample ID: TP-02-SO**

Date Collected: 08/22/19 11:40

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-3**

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

## **Client Sample ID: TP-02-SO**

Date Collected: 08/22/19 11:40

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-3**

Matrix: Solid

Percent Solids: 70.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		10	310468	09/06/19 21:04	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 18:31	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 16:43	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 20:16	W1T	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23886	09/03/19 21:44	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:25	FCW	TAL SEA

## **Client Sample ID: TP-03-SO**

Date Collected: 08/22/19 11:43

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-4**

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

## **Client Sample ID: TP-03-SO**

Date Collected: 08/22/19 11:43

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-4**

Matrix: Solid

Percent Solids: 74.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		1	310468	09/06/19 21:28	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 18:54	T1W	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Client Sample ID: TP-03-SO**

Date Collected: 08/22/19 11:43

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-4**

Matrix: Solid

Percent Solids: 74.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/03/19 22:23	NMI	TAL SPK

## **Client Sample ID: TP-05-SO**

Date Collected: 08/22/19 11:54

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-5**

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

## **Client Sample ID: TP-05-SO**

Date Collected: 08/22/19 11:54

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-5**

Matrix: Solid

Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		1	310468	09/06/19 21:52	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 19:17	T1W	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/03/19 22:43	NMI	TAL SPK

## **Client Sample ID: TP-06-SO**

Date Collected: 08/22/19 12:03

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-6**

Matrix: Solid

Percent Solids: 79.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

## **Client Sample ID: TP-06-SO**

Date Collected: 08/22/19 12:03

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-6**

Matrix: Solid

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 21:00	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 20:19	APR	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 20:31	APR	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		10	310468	09/06/19 22:15	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		5	310163	09/04/19 19:40	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 16:43	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 20:32	W1T	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Client Sample ID: TP-06-SO**

Date Collected: 08/22/19 12:03

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-6**

Matrix: Solid

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 13:37	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23886	09/03/19 23:03	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:29	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:11	T1H	TAL SEA

## **Client Sample ID: TP-07-SO**

Date Collected: 08/22/19 12:09

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-7**

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

## **Client Sample ID: TP-07-SO**

Date Collected: 08/22/19 12:09

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-7**

Matrix: Solid

Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 21:25	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 20:45	APR	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 20:57	APR	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		25	310468	09/06/19 22:39	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		20	310297	09/05/19 13:59	CJ	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 13:58	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23933	09/05/19 00:46	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:34	FCW	TAL SEA

## **Client Sample ID: TP-08-SO**

Date Collected: 08/22/19 12:05

Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-8**

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TP-08-SO**  
**Date Collected: 08/22/19 12:05**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-8**  
**Matrix: Solid**  
**Percent Solids: 86.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 21:50	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 21:10	APR	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 21:22	APR	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D		10	310468	09/06/19 23:03	CJ	TAL SEA
Total/NA	Prep	3550B			310147	09/04/19 09:12	FCG	TAL SEA
Total/NA	Analysis	8270D SIM		5	310163	09/04/19 20:27	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 16:43	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 20:48	W1T	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 14:39	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		20	23886	09/03/19 23:42	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:38	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:13	T1H	TAL SEA

**Client Sample ID: Trip Blank**  
**Date Collected: 08/22/19 00:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-9**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310196	09/04/19 12:48	TCH	TAL SEA
Total/NA	Analysis	8260C		1	310228	09/04/19 22:15	CJ	TAL SEA
Total/NA	Prep	5035			310305	09/05/19 14:04	TCH	TAL SEA
Total/NA	Analysis	8260C SIM		1	310347	09/05/19 19:01	APR	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 19:39	APR	TAL SEA

**Client Sample ID: Trip Blank**  
**Date Collected: 08/20/19 00:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-10**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 10:11	JSM	TAL SEA
Total/NA	Prep	5035			309975	09/01/19 13:41	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	309985	09/02/19 05:01	APR	TAL SEA

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-01-SO**  
**Date Collected: 08/20/19 16:15**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-11**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-01-SO**  
**Date Collected: 08/20/19 16:15**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-11**  
**Matrix: Solid**  
**Percent Solids: 84.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 15:58	JSM	TAL SEA
Total/NA	Prep	5035			311029	09/11/19 08:00	ASJ	TAL SEA
Total/NA	Analysis	8260C		1	311062	09/12/19 06:22	CJ	TAL SEA
Total/NA	Prep	5035			309975	09/01/19 13:41	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	309985	09/02/19 08:29	APR	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		1	310262	09/05/19 16:48	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 12:45	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:34	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 18:09	W1T	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/04/19 00:02	NMI	TAL SPK
Total/NA	Prep	3050B			310416	09/06/19 10:17	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310789	09/10/19 18:42	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:16	T1H	TAL SEA

**Client Sample ID: TS-02-SO**  
**Date Collected: 08/20/19 15:28**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-12**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-02-SO**  
**Date Collected: 08/20/19 15:28**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-12**  
**Matrix: Solid**  
**Percent Solids: 78.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 16:23	JSM	TAL SEA
Total/NA	Prep	5035	RA		311029	09/11/19 08:00	ASJ	TAL SEA
Total/NA	Analysis	8260C	RA	1	311062	09/12/19 06:47	CJ	TAL SEA
Total/NA	Prep	5035			309975	09/01/19 13:41	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	309985	09/02/19 08:56	APR	TAL SEA

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# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-02-SO**  
**Date Collected: 08/20/19 15:28**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-12**  
**Matrix: Solid**  
**Percent Solids: 78.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		1	310262	09/05/19 18:00	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 13:54	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:34	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 18:25	W1T	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 15:00	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/04/19 00:21	NMI	TAL SPK
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310925	09/11/19 19:32	FCW	TAL SEA
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310862	09/11/19 09:05	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:28	T1H	TAL SEA

**Client Sample ID: TS-03-SO**  
**Date Collected: 08/20/19 15:38**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-13**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-03-SO**  
**Date Collected: 08/20/19 15:38**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-13**  
**Matrix: Solid**  
**Percent Solids: 70.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 16:48	JSM	TAL SEA
Total/NA	Prep	5035	RA		311029	09/11/19 08:00	ASJ	TAL SEA
Total/NA	Analysis	8260C	RA	1	311062	09/12/19 07:12	CJ	TAL SEA
Total/NA	Prep	5035			310134	09/03/19 17:49	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	310106	09/04/19 14:08	CJ	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		1	310262	09/05/19 18:23	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 14:17	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:34	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 18:41	W1T	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 15:20	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/04/19 00:41	NMI	TAL SPK

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-03-SO**  
**Date Collected: 08/20/19 15:38**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-13**  
**Matrix: Solid**  
**Percent Solids: 70.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310925	09/11/19 19:36	FCW	TAL SEA
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310862	09/11/19 09:10	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:31	T1H	TAL SEA

**Client Sample ID: TS-04-SO**  
**Date Collected: 08/20/19 15:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-14**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-04-SO**  
**Date Collected: 08/20/19 15:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-14**  
**Matrix: Solid**  
**Percent Solids: 72.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 17:14	JSM	TAL SEA
Total/NA	Prep	5035	RA		311029	09/11/19 08:00	ASJ	TAL SEA
Total/NA	Analysis	8260C	RA	1	311062	09/12/19 07:37	CJ	TAL SEA
Total/NA	Prep	5035			310134	09/03/19 17:49	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	310106	09/04/19 14:34	CJ	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		1	310262	09/05/19 18:47	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 14:40	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:39	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 19:12	W1T	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 15:41	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/04/19 01:00	NMI	TAL SPK
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310925	09/11/19 19:40	FCW	TAL SEA
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310862	09/11/19 09:15	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:33	T1H	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-05-SO**  
**Date Collected: 08/20/19 15:52**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-15**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-05-SO**  
**Date Collected: 08/20/19 15:52**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-15**  
**Matrix: Solid**  
**Percent Solids: 64.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 17:39	JSM	TAL SEA
Total/NA	Prep	5035			310134	09/03/19 17:49	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	310106	09/04/19 15:01	CJ	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 22:40	APR	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		10	310262	09/05/19 19:11	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		10	310163	09/04/19 15:03	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:39	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 19:28	W1T	TAL SEA
Total/NA	Prep	3550C			23989	09/06/19 08:42	AMB	TAL SPK
Total/NA	Analysis	8082A		1	24016	09/09/19 16:01	NMI	TAL SPK
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		5	23886	09/04/19 01:20	NMI	TAL SPK
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310925	09/11/19 19:45	FCW	TAL SEA
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310862	09/11/19 09:20	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:36	T1H	TAL SEA

**Client Sample ID: TS-07-SO**  
**Date Collected: 08/20/19 16:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-16**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1	309887	08/30/19 14:26	JCM	TAL SEA

**Client Sample ID: TS-07-SO**  
**Date Collected: 08/20/19 16:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-16**  
**Matrix: Solid**  
**Percent Solids: 81.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			309944	08/30/19 20:41	JSM	TAL SEA
Total/NA	Analysis	8260C		1	310039	08/31/19 18:04	JSM	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TS-07-SO**  
**Date Collected: 08/20/19 16:01**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-16**  
**Matrix: Solid**  
**Percent Solids: 81.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			310134	09/03/19 17:49	APR	TAL SEA
Total/NA	Analysis	8260C SIM		1	310106	09/04/19 15:27	CJ	TAL SEA
Total/NA	Prep	5035	RA		311201	09/14/19 14:31	APR	TAL SEA
Total/NA	Analysis	8260C SIM	RA	1	311181	09/14/19 23:07	APR	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D		1	310262	09/05/19 19:34	T1W	TAL SEA
Total/NA	Prep	3550B			310035	09/03/19 09:39	MLT	TAL SEA
Total/NA	Analysis	8270D SIM		1	310163	09/04/19 15:27	T1W	TAL SEA
Total/NA	Prep	8011			310074	09/03/19 12:39	JCM	TAL SEA
Total/NA	Analysis	8011		1	310465	09/06/19 19:44	W1T	TAL SEA
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		1	23886	09/04/19 01:59	NMI	TAL SPK
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310925	09/11/19 19:49	FCW	TAL SEA
Total/NA	Prep	3050B			310440	09/06/19 13:00	JCP	TAL SEA
Total/NA	Analysis	6020A		5	310862	09/11/19 09:25	FCW	TAL SEA
Total/NA	Prep	7471A			310557	09/09/19 10:05	JCP	TAL SEA
Total/NA	Analysis	7471A		1	310631	09/09/19 15:38	T1H	TAL SEA

**Client Sample ID: TD-01-SO**  
**Date Collected: 08/21/19 13:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-17**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	23862	08/30/19 15:02	CWD	TAL SPK

**Client Sample ID: TD-01-SO**  
**Date Collected: 08/21/19 13:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-17**  
**Matrix: Solid**  
**Percent Solids: 56.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23886	09/04/19 02:19	NMI	TAL SPK

**Client Sample ID: TD-07-SO**  
**Date Collected: 08/21/19 13:43**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-18**  
**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	23862	08/30/19 15:02	CWD	TAL SPK

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# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

## **Client Sample ID: TD-07-SO**

Date Collected: 08/21/19 13:43  
Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-18**

Matrix: Solid  
Percent Solids: 59.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			23891	09/03/19 11:22	AMB	TAL SPK
Total/NA	Analysis	AK102 & 103		10	23886	09/04/19 02:39	NMI	TAL SPK

## **Client Sample ID: TS-08-W**

Date Collected: 08/21/19 10:55  
Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-19**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309932	08/31/19 01:35	TL1	TAL SEA
Total/NA	Prep	3520C			309543	08/28/19 09:48	N1C	TAL SEA
Total/NA	Analysis	8270D SIM		1	310259	09/05/19 12:29	CJ	TAL SEA

## **Client Sample ID: TS-09-W**

Date Collected: 08/21/19 10:52  
Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-20**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309932	08/31/19 01:59	TL1	TAL SEA
Total/NA	Prep	3520C			309543	08/28/19 09:48	N1C	TAL SEA
Total/NA	Analysis	8270D SIM		1	310259	09/05/19 12:53	CJ	TAL SEA

## **Client Sample ID: TS-16-W**

Date Collected: 08/21/19 10:50  
Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-21**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:13	FCW	TAL SEA
Total/NA	Prep	7470A			309679	08/29/19 09:58	A1B	TAL SEA
Total/NA	Analysis	7470A		1	309796	08/29/19 15:33	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:56	ESB	TAL SEA

## **Client Sample ID: TR-15-W**

Date Collected: 08/21/19 12:04  
Date Received: 08/26/19 12:25

## **Lab Sample ID: 580-88695-22**

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/10/19 00:22	FCW	TAL SEA
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:17	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 17:13	A1B	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-15-W**  
**Date Collected: 08/21/19 12:04**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-22**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			309679	08/29/19 09:58	A1B	TAL SEA
Total/NA	Analysis	7470A		1	309796	08/29/19 15:35	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:56	ESB	TAL SEA

**Client Sample ID: TR-10-W**  
**Date Collected: 08/21/19 14:08**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-23**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/09/19 23:34	FCW	TAL SEA
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:22	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 17:15	A1B	TAL SEA
Total/NA	Prep	7470A			310025	09/03/19 08:27	ART	TAL SEA
Total/NA	Analysis	7470A		1	310145	09/03/19 18:54	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:56	ESB	TAL SEA

**Client Sample ID: TR-11-W**  
**Date Collected: 08/21/19 14:12**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-24**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/10/19 00:26	FCW	TAL SEA
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:26	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 16:50	A1B	TAL SEA
Total/NA	Prep	7470A			310025	09/03/19 08:27	ART	TAL SEA
Total/NA	Analysis	7470A		1	310145	09/03/19 18:41	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:56	ESB	TAL SEA

**Client Sample ID: TR-12-W**  
**Date Collected: 08/21/19 14:56**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-25**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/10/19 00:31	FCW	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: TR-12-W**  
**Date Collected: 08/21/19 14:56**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-25**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:30	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 17:00	A1B	TAL SEA
Total/NA	Prep	7470A			310025	09/03/19 08:27	ART	TAL SEA
Total/NA	Analysis	7470A		1	310145	09/03/19 18:26	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:57	ESB	TAL SEA

**Client Sample ID: TR-13-W**  
**Date Collected: 08/21/19 18:34**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-26**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/10/19 00:35	FCW	TAL SEA
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:35	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 17:02	A1B	TAL SEA
Total/NA	Prep	7470A			310025	09/03/19 08:27	ART	TAL SEA
Total/NA	Analysis	7470A		1	310145	09/03/19 18:39	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:57	ESB	TAL SEA

**Client Sample ID: TR-14-W**  
**Date Collected: 08/21/19 18:34**  
**Date Received: 08/26/19 12:25**

**Lab Sample ID: 580-88695-27**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	3005A			310417	09/06/19 10:36	ART	TAL SEA
Dissolved	Analysis	6020A		1	310658	09/10/19 00:40	FCW	TAL SEA
Total Recoverable	Prep	3005A			310295	09/05/19 11:27	A1B	TAL SEA
Total Recoverable	Analysis	6020A		1	310554	09/06/19 20:39	FCW	TAL SEA
Dissolved	Filtration	FILTRATION			310178	09/04/19 10:39	ART	TAL SEA
Dissolved	Prep	7470A			310505	09/07/19 11:57	ART	TAL SEA
Dissolved	Analysis	7470A		1	310653	09/09/19 17:05	A1B	TAL SEA
Total/NA	Prep	7470A			310025	09/03/19 08:27	ART	TAL SEA
Total/NA	Analysis	7470A		1	310145	09/03/19 18:36	T1H	TAL SEA
Total/NA	Analysis	SM 2340C		1	310101	09/03/19 14:57	ESB	TAL SEA

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Alaska Department of Env. Conservation  
Project/Site: Tuluksak

Job ID: 580-88695-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-88695-28**

**Matrix: Water**

Date Collected: 08/21/19 00:01

Date Received: 08/26/19 12:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	309932	08/31/19 00:21	TL1	TAL SEA

**Laboratory References:**

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL SPK = Eurofins TestAmerica, Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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# Accreditation/Certification Summary

Client: Alaska Department of Env. Conservation

Project/Site: Tuluksak

Job ID: 580-88695-1

## Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-19-22
Alaska (UST)	State Program	17-024	01-19-20
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	DoD	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
California	State	2901	11-05-19
California	State Program	2901	11-05-19
Montana (UST)	State	NA	04-13-21
Montana (UST)	State Program	N/A	04-30-20
Oregon	NELAP	WA100007	11-05-19
Oregon	NELAP	WA100007	11-05-19
US Fish & Wildlife	Federal	LE058448-0	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P330-14-00126	02-10-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20
Washington	State Program	C553	02-17-20

## Laboratory: Eurofins TestAmerica, Spokane

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-025	12-07-19
Alaska (UST)	State Program	17-025	12-07-19
Oregon	NELAP	4137	12-07-19
Oregon	NELAP	4137	12-07-19
Washington	State	C569	01-06-20
Washington	State Program	C569	01-06-20

# Sample Summary

Client: Alaska Department of Env. Conservation  
 Project/Site: Tuluksak

Job ID: 580-88695-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-88695-1	TP-04-SO	Solid	08/22/19 11:47	08/26/19 12:25	
580-88695-2	TP-01-SO	Solid	08/22/19 11:27	08/26/19 12:25	
580-88695-3	TP-02-SO	Solid	08/22/19 11:40	08/26/19 12:25	
580-88695-4	TP-03-SO	Solid	08/22/19 11:43	08/26/19 12:25	
580-88695-5	TP-05-SO	Solid	08/22/19 11:54	08/26/19 12:25	
580-88695-6	TP-06-SO	Solid	08/22/19 12:03	08/26/19 12:25	
580-88695-7	TP-07-SO	Solid	08/22/19 12:09	08/26/19 12:25	
580-88695-8	TP-08-SO	Solid	08/22/19 12:05	08/26/19 12:25	
580-88695-9	Trip Blank	Solid	08/22/19 00:01	08/26/19 12:25	
580-88695-10	Trip Blank	Solid	08/20/19 00:01	08/26/19 12:25	
580-88695-11	TS-01-SO	Solid	08/20/19 16:15	08/26/19 12:25	
580-88695-12	TS-02-SO	Solid	08/20/19 15:28	08/26/19 12:25	
580-88695-13	TS-03-SO	Solid	08/20/19 15:38	08/26/19 12:25	
580-88695-14	TS-04-SO	Solid	08/20/19 15:43	08/26/19 12:25	
580-88695-15	TS-05-SO	Solid	08/20/19 15:52	08/26/19 12:25	
580-88695-16	TS-07-SO	Solid	08/20/19 16:01	08/26/19 12:25	
580-88695-17	TD-01-SO	Solid	08/21/19 13:43	08/26/19 12:25	
580-88695-18	TD-07-SO	Solid	08/21/19 13:43	08/26/19 12:25	
580-88695-19	TS-08-W	Water	08/21/19 10:55	08/26/19 12:25	
580-88695-20	TS-09-W	Water	08/21/19 10:52	08/26/19 12:25	
580-88695-21	TS-16-W	Water	08/21/19 10:50	08/26/19 12:25	
580-88695-22	TR-15-W	Water	08/21/19 12:04	08/26/19 12:25	
580-88695-23	TR-10-W	Water	08/21/19 14:08	08/26/19 12:25	
580-88695-24	TR-11-W	Water	08/21/19 14:12	08/26/19 12:25	
580-88695-25	TR-12-W	Water	08/21/19 14:56	08/26/19 12:25	
580-88695-26	TR-13-W	Water	08/21/19 18:34	08/26/19 12:25	
580-88695-27	TR-14-W	Water	08/21/19 18:34	08/26/19 12:25	
580-88695-28	Trip Blank	Water	08/21/19 00:01	08/26/19 12:25	

Eurofins TestAmerica, Seattle

Anchorage, AK 99502  
Phone: 907.563.9200 Fax: 907.563.9211

**Regulatory Program:**  DW  NPDES  RCRA  Other

8869

**TestAmerica Anchorage**  
2000 N. International Airport Road  
Suite A10

## **Chain of Custody Record**

24962

Anchorage, AK 99502  
Phone: 907.563.9200 Fax: 907.563.9210

8869

TestAmerica

**THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.**

TAL-8210 (0713)

**Regulatory Program:**  DW  NPDES  RCRA  OH

TESTAMERICA Anchorage  
2000 N. International Airport Road  
Suite A10

Anchorage, AK 99502  
Phone: 907.563.9200 Fax: 907.563.9210

# Chain of Custody Record

249625

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

88695

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Contact		Project Manager: <u>Anne Palmieri</u>		Site Contact: <u>Elaine Walker</u>		Date: <u>8/22/19</u>	COC No: <u>3 of 3 COCs</u>
Company Name: <u>ADEC</u> Address: <u>555 CORDOVA ST.</u> City/State/Zip: <u>Anchorage, AK 99503</u> Phone: <u>907-269-7556</u> Fax: Project Name: <u>TULUKSAK</u> Site: P O #		Tel/Fax: <u>744-3184</u>		Analysis Turnaround Time		Carrier:	
		<input checked="" type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS		TAT if different from Below			
		<input checked="" type="checkbox"/> 2 weeks					
		<input type="checkbox"/> 1 week					
		<input type="checkbox"/> 2 days					
		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:
-19	TS-Ø8-W	8/21/19	1055	G W	2	N	X X
20	TS-Ø9-W		1052	G W	2	N	X X
21	TS-16-W		1050	G W	1	N	X X X
22	TR-15-W		1204	G W	2	N	X X X X X
23	TR-10-W		1408	G W	2	N	X X X X X
24	TR-11-W		1412	G W	2	N	X X X X X
25	TR-12-W		1456	G W	2	N	X X X X X
26	TR-13-W		1834	G W	2	N	X X X X X
27	TR-14-W	✓	1834	G W	2	N	X X X X X
	Trip blank	8/21/19	—	—	1	N	X
Preservation Used: 1=Ice, 2=HCl, 3=H <sub>2</sub> SO <sub>4</sub> , 4=HNO <sub>3</sub> , 5=NaOH, 6=Other							
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months							
Special Instructions/QC Requirements & Comments: <i>email results to Anne Marie. Palmieri@alaska.gov</i>							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:	Therm ID No.:
Relinquished by: <u>Erin Gleason</u>		Company: <u>ADEC</u>	Date/Time: <u>8/22/19 16:53</u>	Received by: <u>Peter Gregory</u>	Company: <u>IGAD</u>	Date/Time: <u>8/22/19 16:53</u>	
Relinquished by: <u>Peter Gregory Jr.</u>		Company: <u>Tuluksaq IGAD</u>	Date/Time: <u>8/23/19 11:53</u>	Received by: <u>Ryan Deroberts</u>	Company: <u>RAVN</u>	Date/Time: <u>8/22/19 14:39</u>	
Relinquished by: <u>(30/2019)</u>		Company: <u></u>	Date/Time: <u></u>	Received in Laboratory by: <u>R. Hale</u>	Company: <u>SBA RA</u>	Date/Time: <u>8/26/19 12:25</u>	

## Eurofins TestAmerica, Seattle

5755 8th Street East  
Tacoma, WA 98424  
Phone: 253-922-2310 Fax: 253-922-5047

## Chain of Custody Record



eurofins

Environment Testing  
TestAmerica

9/30/2019

<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM: Walker, Elaine M		Carrier Tracking No(s):		COC No: 580-69339.1	
Client Contact: Shipping/Receiving		Phone:		E-Mail: elaine.walker@testamericainc.com		State of Origin: Alaska		Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc				Accreditations Required (See note):				Job #: 580-88695-1	
Address: 11922 East 1st Ave.		Due Date Requested: 8/30/2019						Preservation Codes:	
City: Spokane		TAT Requested (days):						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
State, Zip: WA, 99206		PO #:						Other:	
Phone: 509-924-9200(Tel) 509-924-9290(Fax)		WO #:							
Email:									
Project Name: Tuluksak		Project #: 58014116							
Site:		SSOW#:							
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab) <small>(BT=TIssue, A=Air)</small>	Matrix (W=water, S=solid, O=wastewt,) <small>(BT=TIssue, A=Air)</small>	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
TP-04-SO (580-88695-1)		8/22/19	11:47 Alaskan	Solid		X			
TP-01-SO (580-88695-2)		8/22/19	11:27 Alaskan	Solid		X			
TP-02-SO (580-88695-3)		8/22/19	11:40 Alaskan	Solid		X			
TP-03-SO (580-88695-4)		8/22/19	11:43 Alaskan	Solid		X			
TP-05-SO (580-88695-5)		8/22/19	11:54 Alaskan	Solid		X			
TP-06-SO (580-88695-6)		8/22/19	12:03 Alaskan	Solid		X X			
TP-07-SO (580-88695-7)		8/22/19	12:09 Alaskan	Solid		X X			
TP-08-SO (580-88695-8)		8/22/19	12:05 Alaskan	Solid		X X			
TS-01-SO (580-88695-11)		8/20/19	16:15 Alaskan	Solid		X			
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.</p>									
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
Unconfirmed					<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2				
					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:				
Relinquished by:		8/28/19 13:40	Company	TASED	Received by:	Manuela Boole	Date/Time:	8/29/19 14:07	Company
Relinquished by:		Date/Time:	Company		Received by:		Date/Time:		Company
Relinquished by:		Date/Time:	Company		Received by:		Date/Time:		Company
Custody Seals Intact: △ Yes △ No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:		S.8		

## Eurofins TestAmerica, Seattle

5755 8th Street East  
Tacoma, WA 98424  
Phone: 253-922-2310 Fax: 253-922-5047

## Chain of Custody Record



Environment Testing  
TestAmerica

9/30/2019

<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM: Walker, Elaine M		Carrier Tracking No(s):		COC No: 580-69339.2	
Client Contact: Shipping/Receiving		Phone:		E-Mail: elaine.walker@testamericainc.com		State of Origin: Alaska		Page: Page 2 of 2	
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note):				Job #: 580-88695-1	
Address: 11922 East 1st Ave., City: Spokane State, Zip: WA, 99206		Due Date Requested: 8/30/2019				Analysis Requested		Preservation Codes:	
Phone: 509-924-9200(Tel) 509-924-9290(Fax)		TAT Requested (days):						A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email:		WO #:						Other:	
Project Name: Tuiuksak		Project #: 58014116							
Site:		SSOW#:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, G=waste/soil, BT=tissue, A=Air)	Field Filtered Sample (Yes or No)	Total Number of containers	Special Instructions/Note:	
TS-02-SO (580-88695-12)		8/20/19	15:28 Alaskan	Solid		X X		X	
TS-03-SO (580-88695-13)		8/20/19	15:38 Alaskan	Solid		X X		X	
TS-04-SO (580-88695-14)		8/20/19	15:43 Alaskan	Solid		X X		X	
TS-05-SO (580-88695-15)		8/20/19	15:52 Alaskan	Solid		X X		X	
TS-07-SO (580-88695-16)		8/20/19	16:01 Alaskan	Solid		X		X	
TD-01-SO (580-88695-17)		8/21/19	13:43 Alaskan	Solid		X X		X	
TD-07-SO (580-88695-18)		8/21/19	13:43 Alaskan	Solid		X X		X	
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I									
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>				
Unconfirmed					<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2				
					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:				
Relinquished by:		8/28/19 13:41	Company: TASEA		Received by: <i>Elaine Walker</i>		Date/Time: 8/28/19 16:07	Company: <i>TASCO</i>	
Relinquished by:		Date/Time:	Company:		Received by:		Date/Time:	Company:	
Relinquished by:		Date/Time:	Company:		Received by:		Date/Time:	Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>S-C</i>					

## Login Sample Receipt Checklist

Client: Alaska Department of Env. Conservation

Job Number: 580-88695-1

**Login Number:** 88695

**List Source:** Eurofins TestAmerica, Seattle

**List Number:** 1

**Creator:** Blankinship, Tom X

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	missing time for -2
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	One container per analysis for waters.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Alaska Department of Env. Conservation

Job Number: 580-88695-1

**Login Number:** 88695

**List Source:** Eurofins TestAmerica, Spokane

**List Number:** 2

**List Creation:** 08/29/19 04:13 PM

**Creator:** O'Toole, Maria C

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.	6
The cooler's custody seal, if present, is intact.	True	497121	7
Sample custody seals, if present, are intact.	N/A		8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True	5.8	11
Cooler Temperature is recorded.	True		12
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	N/A	Not present	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A	No analysis requiring residual chlorine check assigned.	

**Presley, Kim**

---

**From:** Gleason, Erin P (DEC) <erin.gleason@alaska.gov>  
**Sent:** Wednesday, August 28, 2019 5:07 PM  
**To:** Palmieri, Anne Marie G (DEC); Griswold, Lisa M (DEC); Presley, Kim  
**Cc:** Walker, M Elaine  
**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

**Categories:** Red category

**-External Email-**

---

Hi Kim,

Thank you for the email. Sorry about the confusion with the COC. Please see my responses to your questions below in purple. If you need additional information, please feel free to contact me. I will be out of the office starting tomorrow through Monday, but am back Tuesday and Wednesday of next week.

Thank you,

Erin Gleason  
(907)-269-7556

---

**From:** Palmieri, Anne Marie G (DEC)  
**Sent:** Wednesday, August 28, 2019 2:40 PM  
**To:** Gleason, Erin P (DEC) <erin.gleason@alaska.gov>; Griswold, Lisa M (DEC) <lisa.griswold@alaska.gov>  
**Subject:** FW: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Hi –

Please respond to Kim with answers to her questions.

Thanks, AM

---

**From:** Kim Presley [mailto:[kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)]  
**Sent:** Wednesday, August 28, 2019 2:36 PM  
**To:** Palmieri, Anne Marie G (DEC) <[annemarie.palmieri@alaska.gov](mailto:annemarie.palmieri@alaska.gov)>; [elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)  
**Subject:** REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Please address the following:

1.) The container labels for metals have the incorrect metals method on all containers. The nitric poly has Diss Metals however this is the container for Total Metals/Hardness. The Laboratory will use the correct container for the analysis needed. However, there is not an unpreserved container provided for Diss metals for sample TS-16-W (580-88695-21). The single container provided was a nitric preserved therefore only Total Metals/Hardness can be run on this. This sample was logged for Total metals/Hardness. **[Gleason, Erin]** Yes, that was mix up. Sorry for the confusion. Please use the correct container for the analysis needed. TS-16-W only had a preserved sample. Please analyze this sample for total metals/hardness.

2.) The sample time for TP-01-SO(580-88695-2) was not listed on the COC. The sample time of 1127am was taken from the container label.**[Gleason, Erin]** Thank you. The time of 1127 am is correct. I verified it in our field notes.

4.) only 1 container was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20)  
for 8270DSIM PAH analysis. This could cause issue if re-extraction is required.**[Gleason, Erin]** Good to know.  
For future reference, what volume (how many 4 Oz jars) of soil is needed 8270D SIM PAH?

3.) Only 1 Voa vial was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20)  
for 8260C-BTEX analysis. This could cause issue if re-extraction is required**[Gleason, Erin]** Good to know.  
For future reference, what volume of water (how many vials) are needed?

5.) Many of the container labels had sample times that did not match the COC. All samples were logged in using the COC times.**[Gleason, Erin]** Thank you. We will cross reference the with our field notes and make sure the correct ones are noted in our reports.

6.) An additional container was not provided for hardness although this container was provided in the bottle order. This may cause issues with sample volume needed for all analysis.**[Gleason, Erin]** Which bottle was intended for hardness? We did have some extra bottles after the sampling event, but our understanding was they were extras and not intended for use. For future sampling, which bottle should we have used for hardness?

7.) The field sampler was not provided on the COC.**[Gleason, Erin]** Sorry about that. Where in the COC would we have provided this information?

Attached please find the sample confirmation files for job 580-88695-1; Tuluksak

Please feel free to contact me or your PM Elaine Walker if you have any questions.

Thank you.

**Kim A Presley**  
Project Manager Assistant

Eurofins TestAmerica, Seattle  
Phone: 253-922-2310

E-mail: [kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)  
[www.eurofinsus.com](http://www.eurofinsus.com) | [www.testamericainc.com](http://www.testamericainc.com)



Reference: [580-301778]  
Attachments: 2

Please let us know if we met your expectations by rating the service you received from Eurofins TestAmerica on this project by visiting our website at: [Project Feedback](#)

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10  
11  
**12**

**1**  
**Presley, Kim**

---

**From:** Gleason, Erin P (DEC) <erin.gleason@alaska.gov>  
**Sent:** Tuesday, September 03, 2019 2:00 PM  
**To:** Presley, Kim; Griswold, Lisa M (DEC); Palmieri, Anne Marie G (DEC)  
**Cc:** Walker, M Elaine  
**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

**-External Email-**

---

Hi Kim,

No time changes needed. The time difference us from multiple sample bottle/jars being collected at the same location. For examples TS-02-SO has two sample times, but only one was on the COC. Thank you Lisa for sorting that out.

Thanks,

Erin Gleason  
(907)-269-7556

---

**From:** Presley, Kim [mailto:[Kim.Presley@testamericainc.com](mailto:Kim.Presley@testamericainc.com)]  
**Sent:** Friday, August 30, 2019 3:07 PM  
**To:** Griswold, Lisa M (DEC) <lisa.griswold@alaska.gov>; Gleason, Erin P (DEC) <erin.gleason@alaska.gov>; Palmieri, Anne Marie G (DEC) <annemarie.palmieri@alaska.gov>  
**Cc:** Walker, M Elaine <M.Elaine.Walker@testamericainc.com>  
**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Thanks Lisa,  
Attached is the original COC to compare the times you gave to what we have. Let me know if there are any that you would like to have us change.

**Kim Presley**

Phone: 253-922-2310

E-mail: [kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)

---

**From:** Griswold, Lisa M (DEC) [mailto:[lisa.griswold@alaska.gov](mailto:lisa.griswold@alaska.gov)]  
**Sent:** Friday, August 30, 2019 4:00 PM  
**To:** Presley, Kim; Gleason, Erin P (DEC); Palmieri, Anne Marie G (DEC)  
**Cc:** Walker, M Elaine  
**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

**-External Email-**

---

Good afternoon everyone,

As Erin is out of the office currently, I will step in briefly and provide some information. As I am aware, the only issue that needs remediating currently is the sampling times for all of the samples. Please see below:

8/20/19

TS-01-SO

Preserved: 1615

Non preserved: 1615

TS-02-SO

Preserved: 1528

Non preserved: 1530

TS-03-SO

Preserved: 1535

Non preserved: 1538

TS-04-SO

Preserved: 1543

Non preserved: 1546

TS-05-SO

Preserved: 1552

Non preserved: 1554

TS-07-SO

Preserved: 1601

Non preserved: 1605

8/21/19

TD-01-SO

Time: 1343

TD-07-SO

Time: 1343

TS-08-W

Time: 1055

TS-09-W

Time: 1052

TS-16-W

Time: 1050

TR-15-W

Time: 1204

TR-10-W

Time: 1408

TR-11-W  
Time: 1412

1

TR-12-W  
Time: 1456

2

TR-13-W  
Time: 1834

3

TR-14-W  
Time: 1834

4

8/22/19  
TS-07-SO  
Preserved: 1601  
Non preserved: 1605

5

TP-01-SO  
Non preserved: 1127

6

TP-02-SO  
Non preserved: 1140

7

TP-03-SO  
Non preserved: 1142

8

TP-04-SO  
Preserved: 1147  
Non preserved: 1147

9

TP-05-SO  
Non preserved: 1154

10

TP-06-SO  
Preserved: 1159  
Non preserved: 1203

11

TP-07-SO  
Preserved: 1209  
Non preserved: 1209

12

TP-08-SO  
Preserved: 1201  
Non preserved: 1205

Please let me know if there are any more questions.

Sincerely,  
Lisa Griswold  
Environmental Program Specialist  
ADEC/SPAR/CSP  
555 Cordova Street

Anchorage, AK 99501  
(907) 269-2021

---

**From:** Presley, Kim [<mailto:Kim.Presley@testamericainc.com>]

**Sent:** Thursday, August 29, 2019 7:06 AM

**To:** Gleason, Erin P (DEC) <[erin.gleason@alaska.gov](mailto:erin.gleason@alaska.gov)>; Palmieri, Anne Marie G (DEC) <[annemarie.palmieri@alaska.gov](mailto:annemarie.palmieri@alaska.gov)>; Griswold, Lisa M (DEC) <[lisa.griswold@alaska.gov](mailto:lisa.griswold@alaska.gov)>

**Cc:** Walker, M Elaine <[M.Elaine.Walker@testamericainc.com](mailto:M.Elaine.Walker@testamericainc.com)>

**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Hi Erin,

Thank you for the quick response. I have added my answers to the below questions in red.

**Kim Presley**

Phone: 253-922-2310

E-mail: [kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)

---

**From:** Gleason, Erin P (DEC) [<mailto:erin.gleason@alaska.gov>]

**Sent:** Wednesday, August 28, 2019 5:07 PM

**To:** Palmieri, Anne Marie G (DEC); Griswold, Lisa M (DEC); Presley, Kim

**Cc:** Walker, M Elaine

**Subject:** RE: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Hi Kim,

Thank you for the email. Sorry about the confusion with the COC. Please see my responses to your questions below in purple. If you need additional information, please feel free to contact me. I will be out of the office starting tomorrow through Monday, but am back Tuesday and Wednesday of next week.

Thank you,

Erin Gleason  
(907)-269-7556

---

**From:** Palmieri, Anne Marie G (DEC)

**Sent:** Wednesday, August 28, 2019 2:40 PM

**To:** Gleason, Erin P (DEC) <[erin.gleason@alaska.gov](mailto:erin.gleason@alaska.gov)>; Griswold, Lisa M (DEC) <[lisa.griswold@alaska.gov](mailto:lisa.griswold@alaska.gov)>

**Subject:** FW: REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Hi –

Please respond to Kim with answers to her questions.

Thanks, AM

**From:** Kim Presley [mailto:[kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)]  
**Sent:** Wednesday, August 28, 2019 2:36 PM  
**To:** Palmieri, Anne Marie G (DEC) <[annemarie.palmieri@alaska.gov](mailto:annemarie.palmieri@alaska.gov)>; [elaine.walker@testamericainc.com](mailto:elaine.walker@testamericainc.com)  
**Subject:** REPLY REQUESTED\*\*\*Eurofins TestAmerica sample confirmation files from 580-88695-1 Tuluksak

Please address the following:

1.) The container labels for metals have the incorrect metals method on all containers. The nitric poly has Diss Metals however this is the container for Total Metals/Hardness. The Laboratory will use the correct container for the analysis needed. However, there is not an unpreserved container provided for Diss metals for sample TS-16-W (580-88695-21). The single container provided was a nitric preserved therefore only Total Metals/Hardness can be run on this. This sample was logged for Total metals/Hardness. **[Gleason, Erin]** Yes, that was mix up. Sorry for the confusion. Please use the correct container for the analysis needed. TS-16-W only had a preserved sample. Please analyze this sample for total metals/hardness. **[Presley,Kim]** Total Metals/hardness it is.

2.) The sample time for TP-01-SO(580-88695-2) was not listed on the COC. The sample time of 1127am was taken from the container label. **[Gleason, Erin]** Thank you. The time of 1127 am is correct. I verified it in our field notes. **[Presley,Kim]** ☺

4.) only 1 container was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20) for 8270DSIM PAH analysis. This could cause issue if re-extraction is required. **[Gleason, Erin]** Good to know. For future reference, what volume (how many 4 Oz jars) of soil is needed 8270D SIM PAH? **[Presley,Kim]** This was the water samples and since the entire bottle is used in the extraction a second bottle is always provided for a backup. This 2<sup>nd</sup> bottle was not provided. For soil, this analysis can come out of a shared 4oz or 8oz soil jar with other analysis.

3.) Only 1 Voa vial was provided for the following samples TS-08-W (580-88695-19) and TS-09-W (580-88695-20) for 8260C-BTEX analysis. This could cause issue if re-extraction is required. **[Gleason, Erin]** Good to know. For future reference, what volume of water (how many vials) are needed? **[Presley,Kim]** 3-Voa vials are provided for each volatile/Gro method. So for each method we are running we require 3 vials.

5.) Many of the container labels had sample times that did not match the COC. All samples were logged in using the COC times. **[Gleason, Erin]** Thank you. We will cross reference the with our field notes and make sure the correct ones are noted in our reports. **[Presley,Kim]** Please get any corrected times to us as soon as possible to make sure they are updated and appear on the final report.

6.) An additional container was not provided for hardness although this container was provided in the bottle order. This may cause issues with sample volume needed for all analysis. **[Gleason, Erin]** Which bottle was intended for hardness? We did have some extra bottles after the sampling event, but our understanding was they were extras and not intended for use. For future sampling, which bottle should we have used for hardness? **[Presley,Kim]** The bottle order provided a separate nitric preserved poly for hardness for volume issues as well as storage purposes.

7.) The field sampler was not provided on the COC. **[Gleason, Erin]** Sorry about that. Where in the COC would

we have provided this information? [Presley, Kim] The sampler info appears in the right top corner of the COC.

TAL-8210 (0713)

COC No:
1 of 3 COCs
Sampler:
For Lab Use Only:

Attached please find the sample confirmation files for job 580-88695-1; Tuluksak

Please feel free to contact me or your PM Elaine Walker if you have any questions.

Thank you.

**Kim A Presley**  
Project Manager Assistant

Eurofins TestAmerica, Seattle  
Phone: 253-922-2310

E-mail: [kim.presley@testamericainc.com](mailto:kim.presley@testamericainc.com)  
[www.eurofinsus.com](http://www.eurofinsus.com) | [www.testamericainc.com](http://www.testamericainc.com)



Reference: [580-301778]  
Attachments: 2

Please let us know if we met your expectations by rating the service you received from Eurofins TestAmerica on this project by visiting our website at: [Project Feedback](#)